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DEVELOPMENT DIGEST

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FORESTRY



Forest management can be an important feature of economic development. Where wood cutting exceeds new growth, the resulting deforestation can have a devastating effect on the environment and on agricultural output.

The effects of deforestation, due to drought and cutting for fuel and forage needs, are evident in Niger's barren landscape (upper right and left). Reforestation efforts, using seedlings like those shown in this nursery in Upper Volta (bottom left), are an important part of ensuring that national forest resources grow fast enough to meet rising wood demand. Such reforestation can be for protective purpose--to protect the resource base; or for productive ones--to provide wood for furniture, as in this Ecuadorian sawmill (bottom right). (Photo credits: Niger and Upper Volta, U.S. Agency for International Development; Ecuador, the World Bank)

World Forest Resources and Trends

Reidar Persson

[This article summarizes the global data, insofar as can be estimated, concerning area and location of forest lands, the volume of wood they contain, and current changes therein. Generally the tropical forests are being reduced, while man-made and Northern latitude forests are, on balance, increasing slowly.]

World Forest Area and Volume

It is difficult to say with any accuracy how much forested area the world actually possesses. The most reliable resource estimation method, a forestry inventory, has been applied in only some 40 percent of the world's forest areas, so that knowledge about the remaining 60 percent is very unreliable. For many countries, the estimates of forest area are not much more than guesses. Where inventories have been done, their purposes and definitions of classes of area have varied, as has their accuracy. Given these reservations, our estimate of the world's "closed forest" area is 2.9 billion hectares, as shown in Table 1, -- almost 22 percent of the world's land area. A further 10 percent of the world's land area is "open woodland."

A closed forest, where trees are close together, is defined by FAO as an area where tree foliage and branches cover 20 percent or more of the ground in question. Open woodland, on the other hand, where trees are further apart, would include the various types of "savannah forest" found in semi-arid areas of temperate zones and the tropics; these have very limited industrial potential,

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but are of value as a source of fuelwood and other household wood supplies. The borderlines between closed forest, open woodland and non-wooded areas become blurred. Closed forest areas which have suffered widespread degradation may come to resemble open woodland. For these reasons the information presented in Table 1 must be interpreted as an attempt to present in simplified form what is in fact very complicated; a minor shift in the interpretation of the definition could translate into considerable increase or decline in closed forest area. (For example, recent reports since the table was published suggest that the truly closed forest area could be as low as 460 million hectares in North America and 600 in the USSR.)

The total gross volume of standing timber in the world's closed forest is estimated to be in the region of 300 billion cubic meters (Table 1). About half this volume is in developing countries. The gross volume of coniferous species is about one third of this total, with very little of it in developing areas. The gross volume in open woodland areas is estimated at 40 billion cubic meters. There are also large resources of wood in "non-wooded areas" which are classified as agricultural (or desert) rather than forest lands; in many countries these are of major importance for the local supply of fuelwood and other household wood (the extent of these supplies is not estimated in Table 1).

TABLE 1. WORLD FOREST RESOURCES IN THE MID-1970s.

	Area							Gross volume of Standing Timber		
	Closed forest						Open woodland	Closed Forest		Open woodland
	Total	Coniferous	Man-made forests	Unexploited	Inoperable	Inventoried	land	Total	of which coniferous	woodland
	million ha					%	mill ha	billion m ³	with bark ⁵⁾	
<u>Developed regions</u>										
North America	630	(400)	(11)	(310)	(190) ³⁾	78	.. ⁴⁾	54	27	..
Western Europe	112	60	(26)	..	..	68	29	9.2	6	(0.7)
Oceania	49	11	1.2	20 ²⁾	20	57	102	2.0	0.5	(2)
Other market economies	26	11	10.2	1	1	100	3	2.2	1.2	(0.1)
Eastern Europe USSR	793	568	(16+)	(540)	(440) ³⁾	42	115	77.2	66	(5.7)
<u>Developing countries</u>										
Africa	190	3	2	140	40	13	600	..	..	..
Latin America	680	37	3.6	(540) ¹⁾	250	15	280	..	..	..
Near East	10	4	0.2	..	..	43	13	..	..	..
Far East	270	11	3.2	125 ²⁾	85	30	(50)	..	..	..
Other market economies	39	0	0	37 ²⁾	30	17	4	..	..	..
Centrally planned	130	60	30-60	50 ²⁾	23	..	..	..	..	..
Total	2929⁶⁾	1165	..	..	..	(42)	(1500)	300	110	40

1) Shows mainly inaccessible forests. 2) Shows forest not in use. 3) Not suitable for regular harvest.

4) Probably included in closed forest area. 5) Bark may sometimes be excluded. 6) Total land area is 13.4 billion ha.

Sources: In the main Persson 1974 and 1977, FAO 1976, FAO/RLAT 1976, FAO/ECE 1976.

Prospects for Increases in Forest Exploitation

Of the world's closed forest area, possibly as much as 60 percent has so far been virtually unaffected by commercial exploitation. Of this unexploited area, some 60 percent is estimated to be inoperable; these areas are either thought to have a very low productivity, or they are so inaccessible that harvesting is unlikely in the foreseeable future. These estimates for inoperable areas may be on the pessimistic side, however. It is certain that there are large areas of hitherto unexploited closed forests which can be brought into production. They are situated mainly in North America, the USSR and some tropical regions.

The figures given for North America are very approximate; but it is clear that there are large unexploited areas in Canada. Estimates of the production which is physically possible in Canada from the 205 million hectares covered by inventories come to 304 million cubic meters per year (at $1.3\text{m}^3/\text{ha}/\text{year}$), compared to 1974 output of 138 million cubic meters. Most of the presently unused areas are found in the undeveloped northern parts of Canada, where exploitation would mean high development and transport costs. It is considered unlikely that many of these could be utilized at current prices. The British Columbia Council of the Forest Industries, using the June 1972 cost-price relation for sawtimber and plywood and somewhat higher prices for pulpwood, has calculated an economically possible Canadian output of 226 million cubic meters per year. Manning and Grinnell (1971) have estimated production in 1990 at 176 million cubic meters, and in the year 2000 at 257 million.

The USSR also has very large areas of unexploited closed forests, but most of these are evidently of very low productivity and located in remote places, offering little possibility for a large increase in production and export. FAO/ECE, for example, has estimated an export figure of 30-35 million cubic meters (EQ) from the USSR to Europe in the year 2000, compared with 1974 exports of 25 million cubic meters (EQ). (EQ = Equivalent Quantity of wood in the rough.)

Among the tropical regions it is chiefly Latin America which has large unexploited areas, in the Amazon basin. Central Africa and parts of Southeast Asia also have some relatively large areas. Of the 1100 million hectares of tropical rain forest, an estimated 700 million are relatively unexploited.

The tropical rain forest is often said to be a virgin forest; in fact, large parts are covered by secondary forests. The mature secondary forest is in reality more valuable from the forestry point of view than the true virgin forest, since it normally contains more

commercial species. Bole volume (i.e. volume of the central trunk of the tree) in the tropical rainforest is in the region of 250-300 cubic meters per hectare. If branches with a diameter of more than 5-7 cm are taken into account, the total volume of wood rises from 275 to 425 m³/ha. As many as a hundred different tree species have been counted in one hectare. The species occurring vary greatly from region to region. In other respects, however, the tropical rainforest is fairly similar in different parts of the world.

At present the tropical rainforests are of limited importance, supplying 10% of industrial wood. With the exception of certain countries in Asia, exploitation normally consists of selective cutting of a few commercial species. In Africa, for example, no more than 5-25 cubic meters of commercial species per hectare are usually extracted for sale. Repeated selective cutting can mean that the commercial species in the forests become exhausted. Little is known about methods of forest management for sustaining or increasing the yields of the commercial species under tropical conditions (other than in monocrop plantations, on which research has been active), and the need for R & D is obvious. The management methods occasionally tried in some countries are said to be very costly.

The future importance of these forests does not depend primarily on extending the areas utilized. Far more important is the question of whether their wood production potential can be utilized more efficiently than at present--in other words, whether more species can be utilized. In this context it must be mentioned that the possible yield of these forests, if all species are considered, is probably similar in volume to the yields in temperate forests.

World Forest Trends

The world's forest areas, far from being static, are in a state of continual change. Globally, forest areas appear to be on the decline, as the deforestation in tropical forests outweighs the current forest area gains in the developed countries. Agricultural practices are major influences on both the upward and downward trends. By the end of the century, the decrease could amount to 5-10 percent of today's total forest area. However, such declines do not imply corresponding reductions in the future supply of wood; improved forest management, access to presently unused areas, use of currently non-commercial species, and other factors could all contribute to increased per hectare yields.

In many developed countries the area of closed forest is on the increase. Sweden's closed forest area, for example, increased by 50,000 hectares annually between 1953 and 1966, due to abandonment of marginal agricultural land. In the European Community, forest and other wooded areas increased by 1.6 million hectares between 1950 and

1973, as 2.0 million hectares became reafforested while 475,000 hectares of former forest land were diverted to other uses. As for Europe as a whole, although the statistics are not entirely clear, the closed forest area seems to have increased somewhat between 1950 and 1970, a trend which is expected to continue. In a 1968 FAO survey of anticipated changes in closed forest areas over the following decade, responding European countries reported an anticipated 7 million hectare increase in Europe's closed forest area. Finland anticipated the biggest gain, some 2 million hectares, while Spain and Greece also expected large increases. In Northern Europe the forest area gains were expected principally because of abandonment of marginal agricultural land, and the transformation of swamp areas into closed forest. A 1976 study by FAO and ECE projects a 13.9 million hectare increase in exploitable forest area between 1973 and 2000.

The situation is less clear in the USSR and North America. In Canada, forest area seems to have declined somewhat as agricultural land has increased. There are no firm data on Soviet forests. In the United States, the area of commercial timberland first increased by 5.3 million hectares between 1953 and 1962, then declined by 3.4 million hectares between 1962 and 1970. This decrease seems to have resulted from increased recreational needs, urban expansion, road construction and clearing of land for agricultural purposes. Figures for Australia in 1975 show an increase over 1970 in forests with growing stock, but a larger decrease in other wooded areas.

In the tropical regions the total forest area is decreasing (disregarding some increase in man-made plantations), due largely to permanent clearing for agricultural purposes and an expansion in areas under "slash and burn agriculture." (Shifting cultivation in forests requires the felling and burning of trees to cultivate the cleared area for a few years, after which the land is abandoned and returns to second growth trees, grass or bush fallow.) In Africa, it has been estimated that up to 2 million hectares of closed forest area are cleared each year; by the end of the century a closed forest area of 35 million hectares may have disappeared. Between 1958 and 1973, the closed forest area in Latin America declined by an average of 6.5 million hectares per year. In Asia (excluding China), it is estimated the closed forest area will have decreased by 75 million hectares by the year 2000, a reduction of 35 percent.

These figures indicate that collectively the tropical developing areas can expect a decline in closed forest area in the order of some 12 million hectares per year. If these trends continue, the area of closed forest in the developing market economies may have decreased by 20-25 percent by the end of the century. Such projections are based on rather rough estimates; but improved knowledge about closed

forest areas often results in lower rather than higher estimates of their size (it is sometimes unclear whether certain secondary vegetation types which have grown on cleared agricultural areas are forest or fallow, for example). Thus, a considerable decline in the tropical closed forest areas is assured. In the developing countries, increases in agricultural output are achieved in large measure by increasing the area under cultivation, and such increases will continue to be necessary in the effort to keep up with population growth. Much of the increase will necessarily take place in presently forested areas; some of them will be ill-suited to agricultural use, and in such instances environmental problems like erosion will develop.

Man-made Forests

The total area of man-made forests in the world is in the order of 100 to 150 million hectares. [Note: The definition of man-made forests and plantations used here refers to trees planted for wood products; it does not include plantations for other products like bananas, rubber, coffee, palm oil, etc.] A large share of the man-made forests in developed temperate regions consists of "artificial regeneration": man selects and plants essentially the same tree crop as before. Little is known about the extent of the forest areas that have been renewed in this way. "Afforestation," forests established on land which did not previously carry forest, is also normally carried out using species indigenous to the country or continent. Plantations of either type in temperate regions should normally mean that the new stand is better (denser) than the previous natural stand; the new crop may also be genetically improved.

Of basic interest here are the plantations of so-called "fast growing" species consisting mainly of eucalyptus from Australia, and pine species mainly from Central America, California and the Southern United States. When introduced into tropical areas the plantations of these species not only produce more wood than the natural forest in the countries where they are established, but also much more than the managed forests in the temperate regions. A mean annual yield of 25-30 cubic meters per hectare is often mentioned as an example of their productivity. Where large plantations are established the mean values are, however, often lower.

The total area planted in developing countries (excluding China) plus Oceania and South Africa amounts to roughly 13 million hectares. Not all these plantations are of fast-growing species. Indigenous timber species such as teak, limba and okoume are also commonly planted. The species distributed in the regions discussed can roughly be described as in Table 2. The figures in the table are more or less approximate, but they indicate that over 60 percent of the planted area in these regions is covered by eucalyptus and pines. A large

share of the planted area is in small plots which have been established to cover the local needs for timber, fuelwood and poles. The area that can be used for pulp production is actually limited. Of the plantations in Africa, for example, only about one-fifth aims at producing pulpwood, and in Asia the proportion is probably smaller. The countries which have the largest areas of man-made forests in these regions are South Africa (1,050,000 ha), Morocco (294,000 ha), Madagascar (240,000 ha), Brazil (1,900,000 ha), Argentina (500,000 ha), Chile (400,000 ha), Indonesia (800,000 ha, much of it teak), India (approximately 1,500,000 ha), Australia (560,000 ha), and New Zealand (651,000 ha).

Enormous planting activities have been going on in China. The information is unclear, especially where failures are concerned, but perhaps 30-60 million hectares of trees may have been planted since the revolution. Recent visitors have been impressed by the achievements made. In other regions, including North America, USSR, Europe, Japan and Korea, the area of man-made forests is about 70 million hectares.

TABLE 2. SPECIES DISTRIBUTION OF MAN-MADE FOREST
IN TROPICAL AND SUBTROPICAL REGIONS (ABOUT 1974)
(in 1000 hectares)

	Total area planted	Euca- lyptus	Other broad- leaved	Pine	Other Coni- ferous
Africa	3000	1150	640	1040	170
Latin America	3600	1400	800	1000	400
Near East (Asia)	(200)	..	120	..	..
Far East ¹⁾	2400 ²⁾	338	1795 ³⁾	183	54
Oceania	1200	55	25	965	155
Total	10,400	2,950	3,400	3,250	800

Sources: Persson 1975 and 1977, FAO 1976, FAO/RLAT 1976

1) Japan, Korea and China not included.

2) Figures for 1970 (FAO 1976). The area in 1980 estimated to be 3.8 million ha.

3) Of which teak 1,100,000 ha.

It is clear that the plantations made in tropical and subtropical zones have hitherto been confined to a few countries, and that most of these plantations will not influence the export markets in coming years except those for specialized tropical woods. The overwhelming

part of their output is needed to supply wood to the local markets. Many more extensive plantations are necessary if these plantations are to have great importance for the world's supply of wood. But planting activity has clearly been increasing the last few years. In Latin America annual planting from 1968 to 1973 was 300,000 hectares, one third of it eucalyptus. In Africa, the annual planting rate during this period seems to have been in the region of 100,000 to 150,000 hectares, rising to 200,000. In the Far East (excluding China, Japan, and Korea) the mean annual planting area in the seventies is estimated to be 100,000 to 150,000 hectares and in Oceania about 50,000. In these regions the same planting rate is estimated for the 1980s.

If these trends continue, the regions discussed here would have a planted area of 25-30 million hectares by the year 2000, and the total might be larger. It must be stressed, however, that the establishment of fast-growing plantations is not without problems. For instance, it is not known what the long-term effect on the nutrients in the soil will be; in some countries a declining yield in the second rotation has been reported. Monocultures (normally of exotic species) in tropical regions may also be hazardous for other reasons -- e.g. vulnerability to pests. If research in these fields is not intensified there are likely to be many failures.

Summary

It can be foreseen that for some years to come the world's forest area will decrease. From figures given above, it may be concluded that the closed forest area in the world will decrease by 5-10 percent before the turn of the century. The overwhelming part of this decrease will take place in accessible areas. But this prospective decrease will not necessarily cause a disastrous reduction of the capacity of the world's forests to produce wood. The improved management of forest areas, establishment of new plantations, opening-up of presently inaccessible or inoperable forest areas, utilization of hitherto non-commercial species and of logging and sawmill residues as well as overall increased productivity per hectare of forest will all contribute to increased production.

[Adapted from Annexes I and IV of The Life Cycle of Wood, based on a study by Ingvar Jullander and Lennart Stockman for the Committee for Scientific and Technical Policy of the OECD. Published as STU-Information No. 110-1978 by the National Swedish Board of Technical Development, Stockholm, 1978.]

Community Forestry: The South Korean Experience

Erik Eckholm

[Community forestry, based on the active participation of rural people in programs to meet their local needs, is much harder to establish than the usual commercial forestry. South Korea's success is therefore significant, as is that of China (see P. 31).]

Forests by the People, For the People

The challenge facing world forestry is not just to halt deforestation and to plant enough trees to satisfy commercial and environmental needs. From a social perspective, top priority must also be given to meeting the elementary forest and wood needs of the poorest one-third of humanity. And with forest products, as with food, merely growing more produce is not necessarily sufficient to eliminate deprivation. Who does the producing, and how the benefits are distributed, are equally crucial considerations. Today, some foresters are beginning to see the necessity of involving people throughout the countryside in growing trees to meet their own requirements, as well as to protect the land off which they live. But "community forestry," as it is becoming known, will not materialize on the needed scale without major changes in the way foresters conduct their business.

Traditionally, and not surprisingly, most national forest departments have concerned themselves almost exclusively with the areas officially designated as "forest." Foresters have applied their silvicultural knowledge and economic management to these wooded reserves, and have maintained guard forces to protect the trees from wood poaching by fuel-starved peasants and unscrupulous merchants. Consistent with this

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spatially narrow vision, the bulk of official forestry investment in poor countries has been devoted to large-scale timber exploitation for industrial, urban, and export markets. Where forests are especially rich they have often been given over to multinational firms for cutting and export. Meanwhile, the small-scale, spatially diffused forestry needs of the rural majority--firewood for cooking and heating, poles for construction, fodder for livestock, and trees throughout the countryside for the protection of soils and the production of foods and other goods--have often been virtually ignored. As Jack Westoby, a long-time social critic of international forestry, puts it, "In precious few countries have the energies of the foresters been bent upon helping the peasant to develop the kind of forestry that would serve his material welfare."

Unfortunately, in forestry, as in more general economic development, the fruits of large-scale centralized investments seldom trickle down to the poor. Past patterns of forestry development have brought little benefit to the half of humanity inhabiting rural villages. Similar perceptions about the failure of many industrial and agricultural projects to benefit the poor have become commonplace among more enlightened economists. Now the language and concerns of the forestry profession, which have never been part of the mainstream development establishment in any case, are catching up. It may not be coincidental that foresters have begun to think more about the societal implications of their work just as many economists are beginning to recognize the importance of trees to economic development. But the foresters would probably have been forced by the sheer pressure of events to think more about people-oriented forestry. Reports of spreading firewood and timber scarcity, of deepening soil erosion and falling soil fertility, of record floodwaters cascading off denuded hills--are now common fare in Third World newspapers and are creeping into the professional journals. Even the achievement of the foresters' traditional objective, the sound management of forest reserves, is being visibly undermined; for where acute wood scarcity prevails, the protection of woodlands from the desperate and the greedy is all but impossible.

The elements of community-based forestry strategies that could help reverse these dire trends can be spelled out. Villages virtually everywhere have unused lands on which woodlots of fast-growing trees can be planted. In watersheds, the raising of crops, trees, and livestock can be integrated in new ways that protect soils as they provide extra benefits for people. Agro-forestry systems can give shifting cultivators a stable, productive life. Idle lands along roads and canals and around fields can be planted to trees that produce food, fodder, timber, traditional medicines, and assorted industrial raw materials as well as a more hospitable environment. Cheap, efficient cooking stoves that cut family wood-fuel needs in half can be distributed. Participatory forestry, in which the profits, if not the products are widely shared, can even be adapted to industrial wood production--as in the Philip-

piners, where small-holder farmers are supplying timber to the paper industry.

The list of potential community forestry activities could be elaborated and explained further. The problem is not so much what to do as how to do it. To an outsider, getting rural communities to grow some badly needed trees may not seem like such a tall order. But, as the experience of countries such as China and South Korea that have already implemented participatory forestry on a wide scale demonstrates, actually doing so requires radical changes in the attitudes and activities of villagers, governments and aid agencies, and reforms in village organization and land use. Foresters, like development planners generally, are used to running things from above. What contact they have had with villagers has often been in their roles as policemen, denying poor people access to protected lands and wood. Antagonism between peasants and forestry officials is commonplace throughout the Third World; tales of murdered forest guards are not rare. Yet if experience and common sense tell us anything, it is that community forestry cannot be imposed from above and carried out in the face of a hostile population. When the local people are not active participants in and supporters of a project, saplings have a way of disappearing overnight. With fodder usually as scarce as firewood, uncontrolled goats or cattle can quickly ruin a new plantation even when peasants don't covertly cut the saplings themselves.

Community involvement, then, is not just an ideologically appealing goal; it is a practical necessity if rural forest needs are to be met. A recent effort to establish 500 hectares of village woodlots in Niger, for example, failed because as fast as the trees were planted, the village people either pulled them out or allowed uncontrolled grazing to take place. This debacle occurred, concluded John Spears of the World Bank, because villagers "had not been involved in formulating the project and because they perceived the village woodlot area as a traditional grazing ground." Likewise, an effort to preserve some natural forest within a resettlement area in Colombia failed "because the settlers themselves regarded the area as being better suited to agriculture than forestry and they forcibly occupied the protected forest area."

Popular participation is important for economic reasons too. In most countries the costs of the needed plantings and upkeep would be prohibitive if local residents did not pitch in generously with their labor. The high cost of plantation development in Brazil, which has chosen to subsidize commercial plantations by large landowners and corporations rather than to pursue community forestry, stands as a warning on both economic and social grounds to other developing countries, most of them far poorer than Brazil. Since 1967, three million hectares of plantations, mostly fast-growing eucalypti and pines destined for pulp mills, have been established. A valuable resource has been

created but at an extraordinary price: tax subsidies have averaged \$500 to \$820 a hectare, with the public subsidy over 11 years totaling \$1.8 billion. "Despite relatively cheap labor," writes U.N. economist M. K. Muthoo, this plantation program has involved "one of the highest costs in the world of creating man-made forests." Benefits from the program have widened socio-economic inequality: 92 percent of the plantations are over 100 hectares in size, and the bulk of them are in the country's richest regions.

Pushed by economic necessity and pulled by the spread of egalitarian ideas, some governments and aid agencies are beginning to change their forestry plans. A new International Council for Research on Agro-Forestry, directed by the noted forester K. F. S. King, has been established, mainly with Canadian aid money, in Nairobi. The U.S. Congress has directed the Agency for International Development to give new attention to forestry in its rural development programs, while AID and the U.S. State Department have together sponsored an unprecedented strategy conference on tropical forestry problems. The FAO (Food and Agriculture Organization of the United Nations) has initiated, with the financial support of the Swedish Government, a major program of research and education under the theme of "forests for local community development." The World Bank has announced its intention to increase its support for such activities as village woodlots, farm forestry, and environmental rehabilitation. Top foresters and even national political leaders all over the world are beginning to talk of the need to integrate forestry into rural development in new ways.

Welcome as it is, this belated shift in attitudes among national officials and aid agencies provides no guarantee that community forestry will take off with the required speed. Government bureaucracies everywhere are known for their resistance to retooling, particularly when the proposed changes seem to involve a loss of customary authority and elite status. Forest departments--or other agencies if foresters cannot adapt--will need to train a new kind of paraprofessional (they might be called "barefoot foresters") who will worry less about the elegance of silviculture and more about how peasants' cows will be fed, how cooking stoves might be redesigned to conserve firewood, and how small farmers whose economic horizons extend only to the next harvest can be persuaded voluntarily to plant trees for the future. The needs and potential contributions of women--as gatherers and users of wood and as possible growers of wood--have been neglected virtually everywhere and will need to be considered.

Perhaps the greatest impediments to community forestry are the local social and economic institutions that, in many poor countries, perpetuate a rigid stratification of social classes and other social divisions. Community forestry is not a new technology; it is a process of social change that requires the continuous participation of whole communities in planning and problem-solving. It requires people

to shift from an individualistic to a cooperative state of mind in spheres of life where communalism has not usually been the norm. People must willingly give up land-use practices and privileges to which they have long been accustomed. Such a process of cooperative behavioral change, never easy to bring about anyway, is especially unlikely where grossly unequal land holdings or marketing power insure that a powerful minority will capture nearly all the benefits of any community economic gains. Initiating community forestry, then, can require grappling with all kinds of interlocking social, economic, and political problems. At the same time, the process of creative community action that successful village forestry requires is what real development is all about: communities learning to solve problems, to create better lives for their members, to become more self-reliant.

Community Forestry Successes: China and South Korea

Spreading wood scarcity and land degradation have not gone totally unnoticed by governments. Scattered attempts at forest-building have been made over the years, with occasional local successes. But the overall record is a dismal one: millions of seedlings have been planted in the Third World only to be uprooted by people or nibbled to death by livestock within a few years.

A major exception to this generally dark picture has been the example of the People's Republic of China. While there has been little solid documentation on China's forestry programs, enough has been observed by visitors to generate widespread interest in, and even awe of, the country's achievements. Despite many false starts and technical mistakes, the Chinese appear since mid-century to have reversed the progressive land deterioration of many generations and to have mitigated wood shortages of astounding proportions. In his 1948 book, *Road to Survival*, conservationist William Vogt had declared China beyond hope of reclamation. "Millions are going to die," he wrote, as "tragic sacrifices on the twin altars of uncontrolled reproduction and uncontrolled abuse of the land and resources." In the ensuing 30 years, China has developed the capacity to sustain a population nearly twice the size of that which drove Vogt to despair, and the rebuilding and enhancement of the life-supporting capacity of China's landscape--a process to which community forestry has been a key contributor--stands as a signal achievement.

Reidar Persson estimates that from 30 to 60 million hectares of new forests--including those planted for environmental improvement and those meant to supply village or industrial wood needs--have been successfully established in China over the last quarter-century. Chinese officials have told recent visitors that the proportion of their national land area in forest has been increased from 5 percent in 1949 to 12.7 percent in 1978, implying an increase of 72 million hectares. Combining strong central political support for tree

planting with mass mobilization of rural communities for implementation, the continuing Chinese forestry effort has inspired a great deal of thought elsewhere about community forestry's possible designs and accomplishments. But because of the depth of the Chinese political revolution, and China's seemingly unique ability to mobilize huge numbers of people to accomplish tasks, foresters elsewhere have tended more to admire China's physical achievements in forestry than to think of emulating them. Outsiders have often viewed the country's accomplishments in areas such as forestry as feasible only within China's particular political and cultural context. Fortunately, however, examples of successful community forestry in other developing countries are now appearing and becoming more widely known. Neither the scale nor the political framework of tree planting in other countries is likely to match China's, but opportunities for successful community forestry do exist.

The dramatic forestry success story of the seventies, it now appears, is in South Korea. A mountainous country long known for its barren hills, rural fuel scarcity, and severe soil erosion, South Korea has joined China on an elite list: countries where people have reorganized to reforest their landscape. In fact, if the reports are anywhere near accurate, South Korea has, in relation to its size, reforested more land more quickly than even China.

By the early seventies, following decades of imperial occupation by the wood-short Japanese, years of civil war, and the constant pressure of a dense rural population relying mainly on wood for fuel, South Korea's forest picture was grim. Huge timber imports were needed to supply the domestic lumber (and plywood export) markets, while local fuel collection was destroying the rural environment. In order to get through one of the Korean peninsula's cold winters, the average rural family burned more than four tons of wood, crop residues, and other organic matter. Though most of the forests surrounding villages stood on privately owned land, peasants had a traditional right to collect free fuel from them. Hence the landowners, most of whom held only a few hectares, lacked any incentive to replant their lands even when they had the capital and ability to do so, which most did not. A 1969 U.N. report described some of the consequences: "There is a critical need for fuel for heating and cooking, which causes people to cut grass, seedlings, shrubs and tree branches, and to rake the ground of all leaves, litter, and other burnable material. Raking litter from the hillsides is one of the principal causes of soil erosion in Korea, since it removes ground cover needed for organic matter and for protection of the soil. In addition to litter taking, trees are deprived of much of their growth potential by excessive removal of branches. Seedlings are also yearly victims of the farmers' sickles during the grass harvest It is obvious that just the yearly planting of a great number of trees is not, by itself, the solution." South Korea's forestry

problems, then, were rooted in longstanding cultural practices and tied to urgent human needs. Can it be that the country has largely overcome these obstacles in such a short time?

Passing through the countryside in 1978, a visitor to South Korea cannot help being aware that something important having to do with trees is underway, and that the South Korean Government must be terribly interested in forestry. Sprinkled about the hillsides are billboards bearing forestry slogans such as "Love Trees, Love your Country." Other signs forbid unauthorized entry into a patch of forest, while still others simply sport a number--"1975" or "1976"--indicating the year in which that hill was planted. That a date, alone on a billboard, carries a recognized message is testimony to the pervasive awareness of forestry that has, one way or another, been instilled in the populace. And everywhere the trees, the proof that something real has come of all this: row upon row of young trees that in parts of the country seem to cover virtually every spot of land not being farmed. Large areas of South Korea have been transformed from lands of barren hills into lands of young pines; according to government figures, more than one-third of the national land area is stocked with trees less than ten years old. Even if these statistics were viewed with reserve, the country is clearly in the process of changing its face. To be sure, the historical obstacles to sound forest management have not withered away; South Korea's forestry sector faces plenty of technical economic, and managerial problems. Planting failures on long-abused lands now bereft of organic matter are not rare, while pests are killing trees in some areas. But a critical about-face has occurred; the country's challenge is increasingly one of instituting optimal management, rather than of halting the spiral of degradation.

While desultory efforts at village forestry had been tried since the fifties, the really dramatic turnabout occurred in 1973 when the government devised a prominent new forestry policy and law. The new interest in forestry for rural needs was a logical extension of the much broader shift in national development policy that had occurred two years earlier. While boosting the gross national product incredibly fast, South Korea's rapid industrial growth during the sixties pulled more people to the cities, widened urban-rural income disparities, and caused social and economic dislocation in the villages. In 1971, a major new program known as the *saemaul*, or "new community," movement was launched. Billed as a self-help program by which villages could advance economically and build local institutions, the *saemaul* campaign has mobilized villagers to construct irrigation works, roads, bridges, water supplies, and electrical facilities. While it may not represent the spontaneous outpouring of community spirit that government leaders like to portray, the *saemaul* movement has unquestionably helped bring a better material standard of living to the countryside.

Following in the same spirit, the new forestry campaign has tried to mobilize villagers to plant public and private lands, to form co-operatives to produce and market assorted nonwood products such as mushrooms and valuable leaves, and, above all, to establish firewood lots to meet local needs. The program has been implemented through an unusual combination of private and governmental organizations. Building on Korea's long history of village cooperative societies and the scattering of forest associations already in existence, the government encouraged the establishment of Village Forestry Associations (VFAs) in nearly every village. Nominally a private body, a local association consists of a representative from every household in the village--membership is mandatory--and is directed by an elected chief. The VFAs are all part of a nationwide "nongovernmental" network, the Korea National Federation of Forest Association Unions. The meaning of nongovernmental in this case is rather special. The federation's national, provincial, and local officers work parallel to, and in tandem with, equivalent national forest-department officers. The federation and its member village associations receive funds, technical assistance, and policy direction from the government. Yet when the World Bank supported an expansion of the village woodlot program, it worked directly with the federation. According to one federation official: "The network of forestry associations has provided the missing link between the government and the villagers. Village forestry would have failed if the government had simply ordered people to carry it out. Through the associations, villagers have developed a better understanding of their forestry problems and a willingness to work to solve them for their mutual benefit." Nevertheless, some outsiders may wonder how an organization can at once be a government creation with mandatory membership, and a nongovernmental group reflecting a voluntary community spirit.

South Korean villages are precisely boundaried administrative entities. Often they comprise a natural geographic unit, such as a farmed valley and its surrounding hills. As a first step in forming a firewood plantation project, officials from the government, federation, and village association together calculate community wood requirements and identify suitable lands--usually hillsides of little agricultural potential--for meeting this need. Most of the chosen lands are privately owned; the owners are given the option of either reforesting the areas themselves or turning them over to the VFA in return for one-tenth of future proceeds from their plots. Although this share of eventual profits is not great, most landowners, having received virtually no income from their plots in the past, give the land to the VFA. Through this profit-sharing mechanism the Koreans have managed to co-opt private land for public purposes, overcoming the constraints that private land tenure had previously placed on forest improvement. The landowners have no choice about participating one way or the other, but they do receive tangible benefits as a result. Such a combination of latent stick with visible carrot seems to characterize many of South Korea's rural development programs.

The Village Forestry Association--in other words the whole village--plants, tends, and harvests the woodlots without pay. As wood is harvested, it is distributed among households; the proceeds from any marketable surplus are put into a cooperative fund for further community development projects. By the end of 1977, 643,000 hectares of village woodlots--which are primarily for fuel, though many also include trees planted for commercial purposes--had been established in this manner. According to Bong Won Ahn, a federation official who helped plan this enterprise: "The fuelwood component of our forestry program is essentially finished. We calculated the needs and set planting targets, and now these have been met. By the early eighties, when increasing amounts of wood will be harvested from the new plantations, our rural fuel problems will be largely solved."

Critics of the program have argued that popular participation in the village associations, and in the *saemaul* movement generally, is as much a consequence of an authoritarian government's heavy hand as it is a genuine outpouring of civic spirit. Yet the physical and economic achievements of the village forestry and *saemaul* campaigns are there to see, and the benefits have been well distributed among the peasantry. It seems unlikely that such widespread cooperative behavioral changes could be long sustained by compulsion alone. Korea's Confucian tradition, with its emphasis on obedience to hierarchical authority and on social cohesion, undoubtedly helps to explain the success of the programs. But beyond that, the glue binding people together in these efforts may be the genuine personal benefits they receive from their participation. For the many families who had been forced by wood scarcity into buying coal for home heating, for example, the switch to locally grown wood has meant an average 15 percent increase in income. By eliminating middlemen, the cooperatives selling mushrooms and other forest products have greatly boosted the prices received by the peasant producers.

South Korea's forestry program bears certain striking similarities to China's, though the countries are wide apart ideologically. In both cases the central government has made a strong political commitment to community forestry and has backed that commitment up with technical assistance. In both, an essentially authoritarian national government has created local-level participatory institutions for the implementation of forestry goals. And participation in these local structures is mandatory, but it is not meaningless: people are working together for the solution of problems that can only be tackled on a communal basis. South Korea lacks China's ideological commitment to economic equality, and it maintains private property rights. Yet, when it comes to community forestry, the benefits in both countries have been largely reaped by those doing the work, not raked off by moneylenders or big landowners or others.

Given the two countries' cultural and other similarities, is South Korea's experience any more relevant than China's to other developing countries? Development successes of any sort often appear in retrospect to have been the inevitable consequence of uniquely favorable conditions. Hence, one hears it said, the Chinese could wipe out hunger and reforest their landscape "because they are Chinese." Likewise, foresters elsewhere are beginning to dwell on the peculiarities of South Korean culture and politics that brought about its recent successes. While reflecting obvious truths, this perspective omits something crucial: successes never seem inevitable until they actually materialize. In the late forties, China's potential for ecological restoration had been all but written off by the experts. As recently as the late sixties, South Korea's forestry problems appeared insurmountable to many, who cited plenty of failed tree-planting projects in support of their opinion. Yet, in both cases, specific policy decisions and the creation of appropriate new institutional structures preceded the transformation of hopeless situations into "inevitable" success stories.

Neither nation offers a directly duplicable forestry model for other societies, but no country will ever offer such a panacea. That is not the same, however, as saying that forestry success stories do not offer useful lessons to be applied elsewhere. The combination of a strong political commitment at the top with broad public participation and shared benefits at the bottom, which characterizes forestry efforts in both China and South Korea, is a pattern whose possibilities have yet to be explored in many countries. Yet logic, experience, and economic realities suggest that only the rural people themselves will be able to plant, protect, and harvest trees on the scale required in coming decades. Unless institutions are created that give them the means to do so, and that ensure they receive the fruits of their own labor, the interlocking crises of wood scarcity and land degradation can only deepen.

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Forestry Projects and Development

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[The ecological and environmental role of forest areas in developing countries has been ignored until recently, sometimes with devastating results. In addition to the tension between commercial and environmental concerns, the long-term interest in improved forest management can clash with the short-term fuel and food needs of the poor. This article addresses the problems such conflicts present in designing and selecting forestry projects, and proposes some ways of dealing with them.]

Some 200 million people live within or on the margins of forests. Many of these people are dependent on shifting cultivation in forest areas for their food, fuel, and fiber needs. For them, as well as for millions of small farmers residing in the savannah zone of the tropics, tree farming combined with agriculture could significantly improve their quality of life and per capita incomes. Yet, historically, "agroforestry" has received very little attention. Rather, the main resource flows to forestry have been directed toward industrially oriented forest projects. A major forest policy issue of the current decade is how to bring about a change that will result in a larger share of resources being allocated to rural afforestation programs directly benefiting small farmers. The way ahead is to establish fuelwood plantations; shelter belts; fruit, nut, and fodder trees; and rural forestry protection works, including reforestation of eroded catchment areas and sand dune stabilization.

There is an obvious disparity between such a role for forests in development and the observable experience in developing countries. In almost every country

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the environmental benefits from forestry have been ignored and, to varying degrees, the subtle balances of ecology are upset. In many countries, due largely to population pressure, the acceptable limits to the rate of forest exploitation are being breached, and the tenets of good forest management are disregarded. At the same time there is an awakening interest in managing forests for development, a shift of perceptions about the ways in which forests can be used to further the goals of development; and a number of modified approaches are being tried out in practice.

The new interest in forestry development reflects current economic realities. World demand for forestry products is growing as the result of population growth, rising individual wealth, and the development of new uses for wood, especially in paper products, faster than wood is being replaced by man-made materials (by plastics for furniture, for instance, or concrete for railroad ties and telegraph poles). The demand for wood, translating into higher prices on world markets, has enhanced the values of standing timber, and has brought greater returns to private investment in forestry. These price developments have caused both wood-exporting and wood-importing nations to examine their potential for export earnings and import substitution, respectively, through domestic forestry development.

The growth of population in developing countries is adding pressure to the existing land base and is creating a growing demand for fuelwood, as well as wood for other purposes. The expansion of demand for fuelwood has been reinforced by the sharp increases in the cost of alternative fuels such as kerosene and heating oil. Shortage of fuelwood supplies is a cause of social hardship; in many areas of the world, the use of animal dung and agricultural residues replaces fuelwood, and this reduces potential agricultural crop yields. In India, for example, some 6 million tons of nitrogen are lost annually due to dung burning, which is higher than the nationwide use of fertilizer.

The adverse impacts of rising world population and increased industrial usage of natural resources, especially forests, have led to a growing concern with environmental protection and the emergence of a worldwide movement to protect the environment. Increased attention is also being given to programs for rural development that emphasize the necessity of meeting the needs of large numbers of rural people from their existing resource base. There is growing awareness of the contribution of forests in meeting this need and of the numbers of rural people who depend, directly or indirectly, on forests for subsistence. As the social benefits associated with forests--modifying local climates and protecting watersheds, for example--have been assessed more accurately, the value placed by governments on forest reserves and management programs has increased. New laws have been passed, and new institutions charged with implementing legislation aimed at improving the management of forests for the benefit of society have been funded. This movement is observable, for example, in Malaysia and Thailand.

Some of the best examples of recent official responses to forestry needs are found in programs relating to fuelwood. Wood is the preferred fuel of poor people for whom it has obvious advantages: it can be gathered by the family at little or no cost, with only the simplest equipment. In the form of charcoal, wood has added advantages: it burns without smoke, it is light and easily transportable, and keeps well in both rainy and dry seasons. In some areas a solution to the shortage of fuelwood is to establish woodlots or plantations. By using exotic fast-growing species such as Australian eucalyptus, plantations can produce more than 20 times the annual growth of natural forest. One hectare of this kind of plantation can support the firewood needs of from 15 to 20 families. Eucalyptus plantings require little technical skill, and the costs can frequently be kept below \$100 a hectare--much of the cost of plantation establishment is labor. Provision of an adequate supply of seeds or seedlings and extension advice may be all that is needed to induce villagers to undertake tree planting on their own land, or, collectively, in village woodlots. The Republic of Korea has, for example, an annual program to plant 50,000 hectares of village woodlots, while India expects to establish over 500,000 hectares of fuelwood plantations a year.

In the Zinder district of south-central Niger, farmers are growing forest trees as part of their farming operations. Since 1974, six villages have taken land out of farming to establish village woodlots to provide firewood for the whole community. Within five years, it is hoped that 70 villages will have such woodlots, which will save families long walks to gather firewood. Pakistan's Forest Service is experimenting with various species of trees for intensive planting along the banks of irrigation canals in the central plains area. At M'Bidi in northern Senegal, the herds have grazed and stripped away the tree and ground cover surrounding village wells. A scheme of reforestation that is a model of integrated land use management is now under way on a 200-hectare site. The trees will not only produce wood for fuel, but shelter for vegetable gardens and gum arabic (from acacia trees). Once it can be demonstrated that trees provide a multiple source of income, it is expected that herdsmen will be more protective, less prone to let the tree cover be destroyed.

Numerous research projects are under way to develop new tree varieties and appropriate management practices. For instance, in the Philippines, there is a project concerned with propagating the fast growing *ipil-ipil* (*Leucaena leucocephala*) for production of fuelwood, charcoal, pitprops, animal fodder, and pulp and paper manufacture.

Many developing countries have a comparative advantage in fast-growing plantations. Under tropical climatic and ecological conditions shorter rotations are possible, resulting in wood production costs lower than those in countries of the temperate zones. Where land prices in the developing world are relatively low, it is possible to

secure large areas of land close to suitable industrial mill sites for the establishment of concentrated blocks of industrial plantations. Because wood is heavy and costly to transport, domestic primary and secondary manufacture is likely to become more common, and to increase at a faster rate as the value of tropical hardwood rises. The potential for production of cheap pulpwood supplies, and the fact that traditional world pulpwood resources are becoming scarcer and more costly, present developing countries with an opportunity not only to substitute for imports of finished products, but to fill part of the rising world export demand for pulp and paper products.

Adoption of technology that will favor the creation of employment and expansion of domestic manufacture can be a viable economic alternative to capital-intensive industrial forest projects in some areas. For example, reforestation and cutting and extraction can be organized to generate additional local income and employment opportunities by using labor-intensive methods instead of tree-planting machines and bulldozers--with the additional benefit of saving foreign exchange. Certain new manufacturing techniques, such as smaller-scale pulp mills, will make it possible to establish a new industry with a smaller resource supply base.

The buoyant world demand for forest products could provide a substantial stimulus to economic development in those developing countries that have natural forests, and in those with land, climate, and human resources that make plantation forests feasible. It is important that forest policies take account of these possibilities with a view to promoting good forest management which will maintain rather than destroy the economic assets, thus maximizing the contribution of forestry to economic development. Forestry programs are, in fact, proving increasingly acceptable to governments, since they provide many benefits and are relatively inexpensive to finance. There is increasing recognition, too, that environmental considerations, local requirements, and industrial uses and exports need not be mutually exclusive; rather, they are three sequential and reinforcing reasons for the promotion of forest development.

Problems Confronting Forestry Development

Increasing population pressure has always been a major cause of forest depletion. Developing countries, having more rapid growth and often great density of population, with rural-based economies and large numbers of people with low incomes, find it hard to carry out conservation measures. The encroachment on forests by squatters, and expansion of the areas under shifting cultivation, are widespread results of population pressure.

Encroachment is often associated with: (a) increase in the size of a population with a static farming technology; or (b) tenure insecurity

and exclusion of people from better land by patterns of land ownership; or (c) "slash and burn" agriculture, on soils which cannot maintain fertility when traditional technology is used. If the soil is left fallow sufficiently long between crops, and if topographic conditions are suitable, shifting cultivation, in its traditional form, can maintain soil fertility and stability. But growing population pressures result in practices that are increasingly destructive of soil, water, and forest resources: fallow periods are shortened, and cultivation is extended to forest areas of more difficult topography.

The reduction of forest areas through agricultural expansion, whether by squatters or owners, is sometimes lamented as an unfortunate "loss" to society--with some justification where trees are cut and burned and the soil is allowed to deteriorate. But frequently, the transfer of forest land to permanent agriculture is an economically rational shift to permit more productive social use of the land as population and demand for food increase. In these circumstances, the specific ecological and economic trade-offs between alternative forms of land use need to be examined. For example, natural forest is among the most effective means of soil protection; but this low-value use must be measured against the greater economic benefits that come from more intensive agricultural systems. In Malaysia, as an example, it has been found that soil erosion under rubber or oil palm (without cover cropping) is much more frequent than under virgin jungle, but is somewhat less than erosion that occurs on mulched or bare ground. In order to assess these effects, more technical information is needed on the environmental effects of alternative land use systems in different agroclimatic circumstances.

Traditional grazing is also highly detrimental to forest cover, although, with sound practices, it may be carried out in conjunction with productive forestry. In India, a large portion of the country's cattle herd grazes on public forest land. Overstocking of herds poses a real dilemma for forest policy in the direst regions of the world, where grazing is a dominant form of land use; some of these regions are also faced with the most serious shortage of wood. Without forest grazing, livestock cannot survive during dry periods; so much forest and woodland is devoted to grazing. However, the livestock "girdle" trees (eat bark all around the trunks), which kills them; they also impede regeneration by eating any new growth or sprouts. In parts of Asia and the Sahel it is traditional to burn grasslands to promote new grass, and this too kills trees. Improved agriculture can, however, make it possible to reduce forest grazing, as has occurred in some countries of the Mediterranean area.

Many of the issues relating to these circumstances are sociological. Securing the cooperation of local people who are destroying the forests (shifting cultivators, nomadic pastoralists, and squatters) presents formidable social problems. The measures required to prevent or remedy abuses may include reduced stocking, voluntary migration,

and in some cases resettlement in sedentary pursuits. Success in achieving these measures, however, can be very costly, and also politically unpopular. Resettlement may sometimes be impracticable because there is nowhere else to go. Regulating land use through restrictions is also difficult in practice. The best alternative usually lies in increasing agricultural production through the use of improved technology, thus providing the land occupier with an incentive to end his ecologically destructive way of life. This, unfortunately, is a relatively long-term solution.

Institutional and technical problems. Afforested grazing lands are frequently tribally owned. Grazing rights can be strictly enforced when tribal authority remains effective; with the advent of national institutions, however, many tribal grazing control systems have broken down, and have been replaced by government bureaucracies that have little effective control. Many of the present forestry institutions in the world, created as self-contained agencies with technical capability for implementation of afforestation or forestry protection programs, frequently have had little expertise in economic planning or land use matters, and in any case little political influence. This "functional" approach to forest management has fostered a narrow view of forestry's role in the economic development process, and this in turn has resulted in weak government funding of forestry programs or, in extreme cases, the complete exclusion of forestry from rural or agricultural development schemes.

Concession arrangements, tax policies, and the institutional framework for forest extraction operations are other areas replete with institutional problems. The main emphasis in forest development policy has been on extraction operations and the development of a log, timber, or plywood export industry. Most logging operations have been established by overseas lumber manufacturing companies located in Japan, the United States, or Western Europe that seek raw material to feed industrial manufacturing plants located in the country of origin. Governments frequently offer long-term concessions--often 25 years or more--in order to attract investment capital and to induce overseas firms to construct forest roads. The concessions frequently have favored unduly the licensee. Governments of developing countries often have difficulty in defining and negotiating the terms of such long-term agreements in order to ensure that they may earn a fair share of the potential economic benefits from timber extraction. Aspects such as calculating the appropriate level of royalty taxes, clauses relating to reforestation or forest management obligations of the licensee, and arrangements for cost sharing in relation to forest road and infrastructure programs are issues that are often encountered in formulating programs.

The choice between private tree farming and corporate-owned or state-owned industrial plantations is another institutional issue.

If a country's developmental objective is to help the rural poor, priority should clearly be given to encouraging small farmers to grow industrial wood. There are problems in doing so, however. Forests take a long time to harvest, and most small farmers cannot afford to wait 10 years or 15 years before they receive any income from their forestry investment. And, in addition, large privately owned pulp corporations usually insist on controlling directly a significant portion (at least 25-30 percent) of their own supplies of wood.

The technical problems of establishing tree crops in marginal lands are also formidable. Erratic rainfall and long dry tropical seasons in many developing countries require the use of drought-resistant species of trees that are also often slow growing. The variety best suited to marginal lands is usually a low acacia type of "bush" that is perfectly satisfactory for the production of fodder and for providing shade, fuelwood, and building poles. But since such trees rarely attain "timber" height, supplies of sawlogs either have to be grown in areas of higher rainfall (1,000 millimeters annually or more) or imported. The technical problems associated with the prevention of desert "creep" are also severe. Much research is still needed in this area, as is research into ways to establish tree crops in saline areas.

A key issue of technical policy in many countries has been the question of appropriate management for cutover tropical forests, e.g., the choice between extensive management by "enrichment" planting compared with the alternative of artificial plantations. Management systems in tropical high forests are dictated by a complex interrelationship among technical conditions, market opportunity, and other institutional and economic factors. A careful assessment of all these factors is needed before any particular silvicultural regime is adopted. Marketable species usually account for a fairly low proportion of a standing forest--less than 10 percent of the tropical forests of Western Africa and Latin America. Most wood consists of secondary species that have less well-known properties, or that are sometimes more difficult to work than those in demand. Government forestry policy plans tend to be overly optimistic about the market prospects for secondary species. The prospect for widening the range of marketable species can be enhanced if the domestic market is large enough to absorb a significant volume of less well-known timbers, however; and progress has been made in this direction over the past decade in Ghana and Nigeria, for example.

Much research has been carried out recently into the technical problems of producing pulp and paper from mixed tropical hardwoods. This does not present insuperable problems; but the pulp produced has, so far, proved less acceptable than that produced from homogenous temperate forests. Technological research into alternatives to wood, such as the use of bagasse--crushed sugar cane--and rice straw for

paper manufacture, and use of mud bricks for housing construction, becomes increasingly important to wood-deficient countries. An enlightened forestry policy should recognize the role that these substitutes might play in the process of economic development, and should encourage their wider use.

Project Design

The design of forestry projects--other than forestry infrastructure and wood industry projects--presents particular problems. They are frequently located near densely populated areas where people are exceedingly poor and may depend on forest products for a meager livelihood, but where there is little natural forest left and no tradition of reforestation. They can involve long investment and payback periods, during which few benefits are available and relatively little employment is generated. The risks of investment, and the opportunity costs of forestry in terms of alternative land use and other investments, are often high, especially for individual investors. Finally, many of the benefits of forests accrue to society as a whole, not directly to residents of the area or to the investors.

A major purpose of forestry projects--to promote rural development and raise rural incomes, particularly of the poor--can be served by protecting the fertility of the soil and by providing wood for fuel consumption. But because the focus of forestry projects has been, until recently, almost entirely on providing wood products for industrial use, relatively little integration of forestry and rural development has taken place. There is scope for such integration, however. A still more complex integration is possible when an area under consideration for a forestry project has the necessary soil quality and market accessibility. Consideration may be given to a much wider range of trees and plants, often with water-holding and soil-holding characteristics nearly equal to timber forests. Where such trees and plants can grow, they can produce returns per hectare much higher than timber forests, have more varied output and allow recovery of investment in a shorter time. These crops include coffee, tea, rubber, palm oil, coconuts, bananas, fruit trees, nuts, dates, figs, spices, and others. Many of these can be successfully intercropped with annual crops and with timber forests. The amount (and frequency) of income generated per hectare can be substantially increased and the welfare of the local population improved, while, at the same time, benefits accrue to the environment and harvestable wood products are being developed.

With the recent rise in prices of oil-based products has come renewed interest in wood as a fuel. Firewood lots may be the only way to assure the poor a supply of fuel. Fuelwood groves may also provide the poor an opportunity to increase their agricultural productivity, in those areas where dung is used for fuel, fuelwood supplies would permit the dung to be used as fertilizer. Where the poor do not have a well-managed and accessible source of fuel they will exploit

whatever source is available, and will usually overharvest it. Where this could occur, the prevention of all the costs associated with subsequent erosion might be counted as benefits of a fuelwood project.

In addition to providing fuelwood, forests supply badly needed local building materials. The simplest are wood poles; if a small-scale sawmill is located nearby, non-fuel timber can be used. Waste products from wood can be converted into charcoal, a product that has an added advantage in that it is relatively cheap to transport over great distances. The availability of wood can encourage processing industries, artisan activities, carpentry, and furniture making. Timber may be sold commercially to sawmills or pulpmills for eventual export or for sale to wider national markets. In general, there is strong reason for considering labor-intensive technical alternatives in the process of project design, and for planning ways to generate continuing employment throughout a project. The phasing of a forestry project's works also has implications for the investment and payback periods.

The long investment and payback periods typical of forest projects can be offset in several ways, most successfully by introducing species that are naturally fast growing. Good examples are the hardwood eucalyptus species and the giant *ipil-ipil* (*Leucaena leucocephala*.) A further search for as yet unidentified species exhibiting these traits could yield high returns: fast-growing local varieties of known species should be sought out, and research increased in breeding and selecting new strains. More practical short-run measures to generate a cash flow include intercropping, and using techniques providing a variety of products. In intercropping, crops such as maize or beans can be planted between trees; or fruit trees, such as papaya or banana, can be planted between timber trees; or even fuelwood species between plantation trees, such as coconut. Multiple harvests are possible where initial plantings are dense; the thinning process provides poles and fuelwood. Many trees are also sources of marketable minor forest products, such as leaves for livestock feed, leaves and bark for weaving, and resins and gums for various manufacturing purposes.

It is often possible to defer investment costs until the later stages of a project. In particular, the creation of infrastructure, such as roads, can often be deferred until the trees are mature enough for felling and extraction. It is also important that infrastructure such as logging roads be built and maintained cheaply with the use of local materials in order that early investment costs can be held down.

The diversification of sources of cash flow and the spreading of costs also reduce some of the risks associated with forestry projects. Perhaps the most important way to reduce risks is to ensure that the technical package be well tested and reliable. Careful studies of both agronomic and economic feasibility are needed before the viability of any project can be assumed. Yet relatively little is known about the yields of many species of trees, or the best combinations of species under the range of climatic, soil and ecological conditions that are prevalent in tropical countries. The importance, therefore, of evaluation trials cannot be overemphasized. In some cases, production risks can be reduced by providing technical services such as pest control and fire fighting systems.

Finally, there is a need to give explicit attention in project design to aspects of environmental protection in forestry projects, and for these to be recognized as a part of the justification for national forestry programs. In most cases ground cover must be designed so that the environmental benefits are maximized. Possible environmental measures that could be taken include the planting of trees in dense rows, and planting leguminous species that will help build up the fertility of the soil and promote growth of vegetation and absorption of moisture. It may also be important to follow the contour of slopes when building roads and planting trees and bushes.

Forestry projects are difficult and complicated to plan and design, and frequently the ability of officials in developing countries to plan and design them in accordance with all the foregoing specifications may be limited. Even where forestry bureaus are adequately staffed, a narrow approach and a lack of experience can mean that few innovations are considered in designing projects. There is a clear need for better staffing and expertise in forestry bureaus, and also for more research into species characteristics and distribution and cropping patterns, and more development of appropriate wood processing machinery. More resources need to be devoted to examining technical alternatives in the design of projects, and to training people to recognize and take advantage of them. The ability to bring well-presented cases to the attention of planners and politicians will help such decision makers to realize the economic importance of forestry development.

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Afforestation and Fuelwood in China

Robert Taylor

[China's afforestation program is one of the most successful in the world. Its forest area has more than doubled since the Revolution. But there have been setbacks, most notably during the 1950s and early 1960s; and today China's needs for wood in industrial and domestic uses is causing renewed emphasis on forestry development. Abuses of forestry regulations by fuel-seekers remain a problem. This article reviews the achievements and outlines some current issues.]

By 1949, the ravages of war and the process of deforestation had left only 46.5 million hectares of forest land standing in China--about 5% of the total land area. These forest lands were concentrated primarily in the less populated regions of Manchuria and the Southwest, so that nearly the entire population of China lived in basically deforested areas. This critical situation implied grave consequences for industry, agriculture and the people's livelihood unless rectified.

Out of necessity, the Chinese Communist Party and China's leaders have put strong emphasis on forest protection and afforestation. Forestry work has been conducted as a mass campaign, in which forestry is not the business of the forester alone but everybody's business. Hundreds of millions of people have been mobilized "in order to fight a people's war of afforestation". Most of the forest land in China has been under de facto state control and management, as opposed to control and management by communes or their subdivisions, but methods of afforestation have necessitated a reliance upon mass mobilization of labor from the communes in new planting schemes. Efforts have also been made through the educational system and the mass media to

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develop a high level of consciousness concerning the importance of forestry among average citizens. One observer, Jack Westoby, writes: "There now exists in China a degree of forest consciousness that is unequalled anywhere else in the world, save possibly in parts of Canada and some of the Nordic countries."

According to the latest (March 1979) Chinese claims, 12.7% of China's total land area is now covered by forests, implying that about 72 million hectares have been successfully afforested and preserved. Much of this progress has been achieved by afforestation of barren mountain areas, but there has also been some afforestation in the plains regions where there is less wasteland. For example, one report claims that in Hobei Province, located on the North China plain, the forested area increased from about 220,000 hectares in 1949 to 3,100,000 hectares in 1977, from 1.1% to 15.3% of the province's land area.

The Chinese successes in afforestation work are indeed remarkable but they have not come easily. Despite progress in the 1950s and 1960s, lack of experience and technical knowledge on the part of both professional foresters and the masses involved in afforestation caused serious setbacks. In assessing the claims of vast afforested areas, it must be noted that survival rates of trees were notoriously low--less than 10% in many of the earlier commune projects. Poor planting techniques and seed selection were chronic problems, but the most important factor contributing to poor survival rates was apparently the lack of emphasis on the after-care of newly planted trees.

Since the Cultural Revolution, however, and especially during the last few years, afforestation efforts have been meeting with much greater success. According to Westoby, areas which had been badly stocked in the past have been replanted, and survival rates in both these and the new afforestation areas are satisfactory. After-care in afforestation work has been intensified, following the principle established by Chairman Mao that 30% of the efforts should go towards establishment, while 70% should go towards tending and protection. A large amount of practical experience has been gained over the years, and technical knowledge and forestry consciousness have greatly improved with the steady buildup of a core of trained foresters and technical experts, specialization within the communes, and better development in short-course training and decentralized research. In addition, there appears to have been an upsurge in the area of afforestation plantings since the Cultural Revolution. After an extensive tour of China in 1974, Westoby wrote that the age composition of the plantations he visited provided good evidence to back up Chinese claims of an increase in afforestation efforts. In the last two years activity appears to have been especially intense. For example, in the eleven provinces or autonomous regions south of the Yangtze River, the total area afforested in 1977 and 1978 was said to equal the total area afforested in the ten preceding years.

Since the Cultural Revolution there also appears to have been greater emphasis on afforestation as a local economic activity of the communes and their brigades and teams. In earlier years, afforestation work was heavily dependent on state management and control due to inadequate technical expertise at the local levels. However, reports by foreign visitors and various press releases indicate increased attention to the development of commune forests. The present emphasis on ownership of trees according to whoever plants them would appear to confirm this decentralizing tendency.

Despite impressive achievements in afforestation work, particularly in recent years, it is clear that much remains to be done. In some parts of China the forests are still only one or two percent of the land area. Continued forestry development is still urgently needed to protect agricultural output by conserving water and soil, and to provide wood for both industrial and domestic requirements. In industry and construction, a critical shortage of timber supplies is reflected in the degree to which other materials are substituted for timber. In Heilongjiang (Manchuria), the province that accounts for more than 40% of China's total industrial timber output, timber removals have steadily outpaced afforestation efforts, causing a reduction of provincial forest resources to 30-40% below the level of the 1950s. To quote a March 1979 article in People's Daily, "Forestry development, as it cannot keep up with the needs of the people's livelihood, national construction and industrial and agricultural production, has become a weak link in the national economy."

Forestry development has been given special attention by China's present leadership, judging from official pronouncements, the intensification of forestry work in the last two years, and the ambitious goals that have been set. In the new Forestry Act adopted by the Fifth National People's Congress in February 1979, a general goal was set to enlarge China's forested area eventually to 30% of the total land area. The act states that the forested area should generally exceed 40% of total land area in counties in mountainous areas, 20% in counties in hilly areas, and 10% in plains areas. Continued intensive efforts in afforestation can therefore be expected.

Forestry development in China has stressed two major types of forests, protective forests and productive forests. Protective forests are those whose main function is water and soil conservation, providing protection against wind and drifting sand, or protecting river banks, canals, and roads. Productive forests include timber forests, but also economic forests that provide fruit, edible oil, or special industrial or medicinal raw materials, and firewood and charcoal forests.

Most of China's forestry work has probably been geared towards protective forestry. The serious erosion, water runoff, flooding and desert encroachment problems caused by widespread deforestation have

made the establishment of protective forests an important and vital element in the drive to increase agricultural production. The role of forestry in supporting agriculture was stressed by Mao from a very early period on, and under the current regime its importance has been emphasized even more forcefully. At present, the Chinese are working on a "green Great Wall", which will consist of a 7100-kilometer-long system of forest shelterbelts, stretching from Xinjiang to Heilongjiang Province. The shelterbelts will cover 5.3 million hectares and benefit over 13 million hectares of farmland and pasture land. The project is scheduled for completion in 1985.

The development of productive forests has been recognized as one important way to increase rural production where arable land is limited. Especially in relatively hilly areas, where the arable land may be only 20 or 30% of the area, stress has been laid on making uncultivated areas yield timber, fuel, fruit, or edible oil through forestry development. In timber production, heavy reliance is still placed on the established large, state-owned forestry bases, especially in Heilongjiang (Manchuria). In the 1970s more emphasis has been given to creating new, large reserves of industrial timber, a good example being the Chinese fir afforestation campaign in Hunan Province. At the same time smaller units of commune afforestation are beginning to play a more important role in timber production; in fact, these local forests now probably play the biggest role in forests developed especially for supply of fuel, and for economic crops such as fruits, nuts and edible oil. Economic crops gained from commune, brigade or team forest areas can be sold for cash. Locally produced timber or fuel can also be sold or retained to meet local needs, and many communes seek to make themselves independent of outside timber or even fuel sources. "Nearly every commune that I passed through," Jack Westoby wrote, after his trip to China, "had devoted some areas to timber production over and above the ubiquitous road, field, and stream planting. Sometimes this was designed to provide fuelwood, but more often it was aimed at the production of construction and transmission poles and, eventually, of saw timber." In addition to the commune timber and fuelwood forests, roadside trees and individually owned trees planted in the villages and in the yards of homes help meet various local needs for shade, fruit, or branches to burn. The poplar has become popular for roadside planting because it grows fast and provides a good windbreak, its trunk provides good straight building material, and pruning can yield fuelwood, miscellaneous wood for making household and farm implements, and organic material (leaves) for fertilizer.

Despite the government's recent emphasis on developing commune fuel lots, it remains true in many rural areas where coal is scarce that fuel is mainly obtained by traditional gathering--crop residues plus whatever fallen branches, roots, twigs, brush, even grasses and leaves can be found in uncultivated areas. Since these

uncultivated "wastelands" are also prime sites for establishing new forests, there is an inherent conflict between the gatherers of fuel for today's household needs, and the planters of trees to meet various future needs. And even if new forests do not displace traditional fuel-gathering places, the trees are in any case a tempting source of fuel in resource-poor areas.

The government has tried out various compromises between the tree planters and fuel gatherers in an effort to head off the encroachment on forests. For example, the small-size timber harvested in the big state forests as part of normal cutting procedures is supplied to nearby rural markets. Farmers may be permitted to remove dead trees and the branches and miscellaneous wood left by lumber operations, with their access organized under government supervision. Elsewhere uncultivated land is divided into forest and fuel-collection zones; fuel collections may be organized and limited to certain times of year. There are many local variations; in Shandong province, for example, grass cutting--the primary traditional fuel source--is allowed in certain hilly areas but limited to designated months, with the hills classified by degrees of deforestation (i.e. need for protection).

Despite some successes with these compromise measures that recognize the needs of fuel gatherers, the destruction of both natural and newly planted forests remains a chronic problem. In the late 1950s, national regulations limited access to afforested areas and prohibited fuel gathering in designated areas, and over 3000 State Forest Service Centers were established to enforce them. A 1963 law required county authorization for removal of more than 10 cubic meters of wood from commune forests; but illegal removals continued. In February, 1979, the government issued the strictest set of regulations to date, and the punishments for forest abuse were made more severe. Yet, recent editorials in People's Daily indicate that forest destruction by fuel seekers still goes on, and even reportedly increased in some areas.

Clearly, the battle between tree planters and fuel gatherers continues. Stricter laws and more severe punishments cannot solve the basic problem: shortages of household fuel in many rural areas. Perhaps the best response to the problem consists of still greater emphasis on establishing commune fuelwood lots, and an expanded role for alternative fuels, such as coal and biogas. Fortunately the present regime appears to be seeking both of these objectives in its development programs.

[Extracted from Chapter 4 of a dissertation entitled China's Rural Energy Economy, in preparation for the University of Michigan.]

Carbon Dioxide and the Role of Forests

Gordon Donald, Jr., Editor, Development Digest

An environmental issue of current concern revolves around the implications of an increase in carbon dioxide (CO_2) in the earth's atmosphere, and the role of world deforestation in this connection. Many of the facts bearing on this issue are very much in dispute among scientists, but a few points can be stated with some assurance. 1.) Industrial progress worldwide has involved a rapid acceleration in the burning of fossil fuels. This adds more and more CO_2 to the air. 2.) Measurements of the CO_2 content of the atmosphere, not only in industrialized areas but in arctic and tropical regions, show consistent increases since systematic monitoring began in 1958. 3.) CO_2 in the air absorbs heat radiation from the ground; increased CO_2 should raise air and surface temperatures. This might in time heat up the world climate--possibly with major agricultural consequences, and melt polar ice--potentially raising global ocean levels and flooding coastal cities. 4.) Growing trees absorb CO_2 ; world deforestation should therefore be weakening the removal of CO_2 from the atmosphere. One school of thought concludes that reforestation is the principal or only way in which mankind can combat the threat to the world climate caused by advances in our fossil-fuel-based industrialization--which most of us would be unwilling to sacrifice.

The objections to such a conclusion take several forms. Industrialization and extension of agriculture also generate increases in atmospheric particles which reflect (rather than absorb) solar radiation; a number of meteorologists find more threat to our climate in a gradual cooling toward another ice age than in overheating from the CO_2 effects. While CO_2 is rising, it is not increasing as fast as the accelerated fossil fuel use would suggest: there seems to be a vast absorption of CO_2 going on somewhere, but nobody can be certain how or where. It may be in the oceans, though oceanographers are somewhat dubious; and it may be in the forested zones--but the absorptive power does not seem to be diminishing over time despite a trend toward deforestation. One reason may be that when a forest area is cut down and then allowed to grow back, it may well absorb more CO_2 than it would have in an undisturbed state where CO_2 absorption by growing trees is offset by the CO_2 output of decaying vegetation. Thus, cutting more forests periodically may add to global absorption.

For these and other reasons, the role of forests in the evolution of the world's climate is currently highly controversial. The rates of change in CO_2 , whatever the relative contribution of various causes, and the trends in global temperatures will probably not be determined to everyone's satisfaction before 2000 A.D. By then, some believe, it will be too late to reverse a CO_2 buildup. One can only conclude, as of now, that increased cultivation of trees has a number of environmental benefits, and a positive climatic impact of unknown magnitude is among them.



CO-FINANCING

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This steelmill in Cubatao, Brazil is owned by COSIPA and was constructed with World Bank funds. A subsequent World Bank loan to COSIPA to expand its activities was co-financed in part by U.S. commercial banks. (Photo: World Bank)

Co-financing for Development

Roger S. Leeds

[Co-financing, a credit partnership between two or more lenders, has become an accepted feature of development finance amongst the world's official lending institutions. A particular variant of co-financing, in which commercial banks join with official lenders, has recently emerged. This article examines the international context in which such agreements appeared; the benefits for borrower and lenders alike; reasons why such partnerships have not become more popular; and the role they might play in the years ahead.]

Co-financing, as the term is used here, occurs when an official lending institution such as the World Bank enters into a formal agreement with a group of private creditors for the purpose of making a loan to a developing country for the financing of a specific project. The mechanism involves three participants: the borrower--normally a developing country government or government controlled corporation; a group of lenders from the private sector, for example commercial banks; and one or more official lending institution such as the World Bank or the Inter-American Development Bank. Indirectly there is also a fourth participant, namely the donor governments that make it possible for the official lending institutions to transfer large amounts of capital from the rich to the poor countries.

From the standpoint of the borrower, co-financing is important because it may increase the flow of capital that can be used to accelerate growth and development. It is in the interest of the private lenders because it may provide them with better, more diversified lending opportunities while at the same time providing the opportunity to benefit from a number of services that derive from a formal relationship with official lending institutions, such as access to information and loan administration services.

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The overriding function of official financial institutions such as the World Bank is to provide capital and technical assistance to developing countries that is earmarked for specific projects which significantly contribute to national development. Co-financing is noteworthy for these institutions because the prospect of joining forces with private sources of capital may result in larger total capital flows to developing countries than would otherwise be available, particularly if the private banks can be convinced to increase their lending in countries that previously were perceived to be too risky. It also increases the likelihood that private bank funds will be applied to high priority, development-oriented projects.

Co-financing also warrants serious study because scrutiny of the global flow of financial resources from suppliers to users reveals that, particularly since the 1973 oil crisis, there is a vast pool of available funds in the capital surplus countries that must be profitably invested. Co-financing is coming of age at a time when the international financial system is undergoing revolutionary change. The Eurocurrency market, the principal source of funds for developing country borrowers, has grown from a relatively insignificant \$100 billion in gross terms ten years ago to over \$800 billion today--an increase of 800% in a decade!

With this enormous increase in the supply of funds it is not surprising that private lending to less developed countries has also undergone dramatic growth. In 1978, for example, about \$38 billion of Eurocurrency credits were completed or signed between developing country borrowers and private lenders, compared to \$20 billion in the previous year. The multilateral lending institutions also have increased their lending. At the World Bank, for example, lending jumped from \$3.2 billion in 1974 to \$6.8 billion in 1979. If properly structured, co-financing is one mechanism for channeling a greater portion of this vast pool of funds to the Third World in a manner that will be mutually beneficial to borrowers and lenders.

Yet, co-financing has not gained widespread acceptance in its initial years of operation. For example, closer examination of the composition of private lending to third world nations reveals that the bulk of the funds went to only a handful of the most developed countries (e.g. Mexico, Brazil, Korea, The Philippines), and only a fraction took the form of co-financing with official lending institutions. Despite a need to find new lending opportunities, private banks clearly have not yet viewed co-financing as a major outlet. Similarly, only a small proportion of the total lending by multilateral institutions was in the form of co-financings with private lenders, and in those cases where this mechanism was used, the funds flowed to those same middle income countries that have the greatest access to international capital markets. Brazil, for example, was

the recipient of nine of the first seventeen World Bank co-financings --and not one of the seventeen went to an African nation. It can hardly be said, therefore, that co-financing has played a major role in transferring capital from "those who have it" to "those who don't."

Co-financing is a new concept. It is still in its earliest stages of development. Although variations of the idea can be traced back to the years immediately following World War II when the World Bank was more concerned with reconstruction than development, the first co-financing to a developing country was not conceived until 1975. And like most new policy initiatives that are somewhat complex and have far-reaching implications for the institutions involved, the concept will only gain acceptance over an extended period of time as a result of discovery, experimentation, debate and pressure from those who develop a stake in the outcome.

Shift in Sources of Capital for Development

During the 1970s the sources of development financing began to change. On the private side, the enthusiasm of institutional foreign investors waned as the risks became more self-evident. Some developing countries, reacting to what they perceived to be an excessive repatriation of profits from exploitation of finite natural resources, instituted protective legislation that effectively discouraged prospective foreign investors. In other countries--for example Chile, Angola and even Iran--the risks of foreign investment were more manifest, with the painful realization that an entire venture could be lost as a result of expropriation or civil war. The enthusiasm of foreign investors in the earlier years was replaced by caution and, in some cases, an attitude that the risks simply outweighed the profit potential. At the same time official sources of economic assistance also began to decline. In this decade the flow of economic assistance from industrialized countries to the Third World has been decreasing; from 1976 to 1977 official aid from all developed countries as a percentage of their GNP declined from 0.35% to 0.31%.

This steady deterioration of official development assistance, coupled with the growing disenchantment of private foreign investors, began to be offset in the seventies by a third major source of external capital. Particularly for the more prosperous developing countries--the so-called middle income countries--the private international capital markets gradually become accessible as a source of funds. At the same time that other supplies of capital for development were becoming scarce, external borrowing from private banks began to increase dramatically. In the case of the middle income countries, the net inflow of publicized medium- and long-term Euro-currency credit from private sources increased from a yearly average of approximately \$7 billion in the 1969-73 period, to \$12.5 billion

billion in 1975 immediately after the oil crisis, to approximately \$38 billion in 1978.

The single most important event affecting the access of developing countries to international sources of private capital was the 1973-74 oil crisis. As a result of the OPEC decision to raise the price of oil by over 400%, the private banks became the recipients of an unprecedented inflow of deposits--the flood of so-called petro-dollars. It is estimated that OPEC oil revenues increased from \$28 billion in 1973 to \$106 billion the following year, and that the OPEC current accounts surplus soared from \$6.5 billion in 1973 to \$68 billion in 1974. These surplus funds became available for lending at the same time that several other factors were beginning to influence the utilization of private international capital markets by developing countries.

One manifestation of the post-oil-crisis global recession was a contraction of demand for credit by the industrialized countries. Low or negative growth rates coupled with high inflation and soaring interest rates destroyed the appetite of many borrowers to take on additional debt. Of course, these wealthier participants in the credit markets could afford to wait for better times. Developing countries intent on rapid development could not. Highly liquid and without the normal levels of demand from their traditional customers, private banks readily agreed to satisfy demands for credit emanating from the developing world.

As a result, the international financial flow of funds underwent a dramatic change. Not only did the OPEC countries suddenly become a dominant supplier of funds to the international capital markets, but developing countries became major borrowers. Consequently, private financial institutions have become the principal source of external capital for a large group of countries, supplanting the role previously played by direct foreign investment and official development assistance.

But not all developing countries have access to private international capital markets. Out of ninety-six countries that the World Bank classifies as developing, only a small fraction have become active customers of private creditors. In 1978, for example, fifteen countries accounted for approximately 78% of total lending in Eurocurrency credit markets by developing countries. On balance, most Third World countries have not had ready access to this huge pool of capital simply because most private creditors have not judged them to be sufficiently creditworthy. This means that in most Third World countries the risk of problems in obtaining timely repayment of interest and principal is thought to outweigh the potential reward, given alternative lending opportunities.

Thus, despite a relatively high level of liquidity in international capital markets and a rapid growth of international lending by private banks, the majority of Third World nations are still without adequate supplies of capital. These countries are victims of a paradoxical situation in which there is no serious shortage of funds, and yet the flow is not in their direction. Co-financing, if properly structured and aggressively marketed, has the potential to partially alleviate this bottleneck. But it has not. Although widely endorsed in principle by all participants, the concept has not been widely used in practice.

Co-financing: How It Works

In December 1975, an official lending institution joined with a syndicate of private commercial banks to provide funds for an industrial project in a developing country. It was the first co-financing of its kind. In addition to providing its own funds for the project, the World Bank entered into a separate agreement with a syndicate of 16 private banks managed by the Bank of America to extend credit to Brazil's enormous government-controlled steel plant, Companhia Siderurgica Nacional (C.S.N.), in order to expand its facilities. The financial arrangement, somewhat typical of a number of similar transactions completed in the ensuing years, included a \$55 million medium-term Eurodollar loan from the private syndicate and a \$95 million World Bank project loan of longer maturity. Rounding out the financial package, CSN was able to obtain a \$63 million loan from the Inter-American Development Bank and an additional amount of approximately \$490 million from export credits for the expansion project.

Why was this complex financial arrangement classified as a "co-financing"? First, it involved the extension of credit for a specific purpose by both public and private financial institutions outside the borrowing country. Moreover, unlike most other international financings, in this case private and official lenders had collaborated closely prior to signing loan documents, and they had agreed formally to specific means of cooperation after the documents were signed. Although the loans from private and public sources were separate--and would be repaid separately--they required close interaction between the three parties invariably involved in co-financing arrangements--private lenders, official lenders and a developing country borrower. As frequently occurs with co-financings, the official lending institution reviews the loan agreement between the borrower and the private creditors, providing advice when requested.

Although all of the lenders to CSN negotiated and entered into separate loan agreements, certain collaboration was assured. In

order to attract private lenders to the project the World Bank agreed, with the consent of CSN, to provide detailed information about the country and the project that would not ordinarily be divulged outside the Bank. Since access to information is frequently one of the most formidable obstacles to successful international lending, particularly in developing countries where relevant data are either not available or unreliable, this aspect of co-financing is of the utmost importance to the private participants.

The private lenders were also attracted by the existence of a "cross-default" clause in the official loan agreements. The covenant provided the World Bank with the option of suspending disbursement or accelerating repayment in the event that the syndicate of private banks suspended or accelerated their loan for "good cause". In other words, outright default or prolonged delay of repayment to one lender in effect would be tantamount to default with the other. From the viewpoint of the private bankers, inclusion of this clause provides one of the major inducements for participation in the financing because they are well aware that an LDC borrower will be extremely reluctant to violate any of the articles of a loan agreement in which an official lending institution like the World Bank is involved.

In addition to these major features, the CSN co-financing agreement stipulated that distribution of World Bank funds would be contingent upon the proper utilization of the funds coming from private creditors. Moreover, the Bank agreed to take on a number of administrative duties, such as serving as the billing agent, which it now frequently does in co-financing arrangements. Although these are not major responsibilities, the private banks are glad to be alleviated of such time-consuming chores.

Another major attraction of co-financing from the perspective of the private lenders is the opportunity to take advantage of the in-depth project analysis that is invariably conducted by World Bank officials prior to approving a loan. Private bankers have stated repeatedly that, particularly in developing countries where real and perceived lending risks are greater than in traditional markets, they feel more confident when one of the multilateral lending institutions is directly involved. They concede that only an official lending institution, free of the extraordinary competitive pressure under which private commercial banks must operate, can afford the luxury of conducting lengthy, painstaking analysis by specialists of every relevant detail of a project.

Officials at the multilateral lending institutions are also concerned with such factors as access to information, portfolio

diversification, timely repayment of principal and interest, and other features of a loan agreement that provide the private banker with a greater sense of security. But their motivations for entering into a co-financing agreement are different. From the viewpoint of an institution primarily concerned with the commitment of financial resources for development purposes, co-financing is attractive because of its potential for increasing the flow of private capital into more productive, development-oriented projects in Third World countries. By working more closely with private creditors, there is a greater likelihood that external capital will be applied to more projects high on the list of national development priorities.

The co-financings initiated since December 1975 seem to have distinct advantages for both types of participants. There have been no serious repayment problems; all projects are progressing as planned. There has been no outcry that co-financing is a poor allocation of scarce official resources; representatives from the member governments of the official lending institutions appear to support the concept without reservations. Neither the management nor the shareholders of the major private bank participants have raised any serious criticism of co-financing; the benefits derived from close cooperation with official lending institutions are demonstrably positive.

Nevertheless, the start-up phase has not resulted in a rush by any of the three major participants to make more extensive use of co-financing. Contrary to the hopes of the architects of co-financing, the scheme has not induced private banks to increase their lending in some of the lower-income developing countries. To date, the majority of co-financings have been undertaken in precisely those developing countries which already have the easiest access to international capital markets.

Current Issues and Future Prospects

The record of co-financing between private and public financial institutions during the initial years of the concept's lifetime suggests that it has evolved in typical banker fashion: slowly, prudently, and in projects where risk was perceived to be at acceptable levels. Between December 1975, when the CSN loan agreements were signed, and the spring of 1979 the World Bank participated in 18 co-financings with private financial institutions. Although the terms and conditions varied in each case, the formula adopted for the CSN loan continued to provide the basic framework for the World Bank. By spring 1979, the World Bank had committed more than \$1 billion to co-financings, with private bank partici-

pants providing an additional \$630 million. More than 80% of the commitments were to Latin American countries, which generally speaking are considered to have the "best" credit ratings in the Third World; nine of the eighteen projects were in a single country--Brazil. The record indicates, therefore, that co-financing has succeeded only in a limited number of countries--all of which are classified as "middle income" by the World Bank.

When co-financing was first mentioned as a useful mechanism for transferring capital from rich to poor countries, proponents of the scheme hoped that the process would result in an additional flow of funds to developing nations. But here too the record has been disappointing. Additionality has not occurred, in part because co-financing has focussed on those Third World borrowers that have the easiest access to international capital markets. But it is in the poorer countries, where the foreign banks are not clamoring for a market share, that the direct involvement of an official lending institution would probably be a factor in stimulating private sector interest.

Moreover, additionality has failed to occur because until recently only the largest international banks have been attracted to the concept. It is probable that additional funds would flow to developing countries when co-financing involves those banks that lack extensive lending experience in the international arena. Only recently, however, have the multilateral agencies begun to focus on this group of lenders as potential participants in co-financing agreements.

The reasons why co-financing has not been as widely endorsed as its proponents would like fall into two broad categories. First, the success or failure of co-financing is partially dependent on external developments in the international capital markets. For example, factors such as the price of oil, interest rates in the Eurocurrency markets, and the overall operating strategies of the large international private banks affect the supply and demand for credit in the international arena. And second, as with any new program, a number of operational problems have hampered the growth and development of co-financing. Marketing problems, and the perceived effectiveness of the cross default clause, exemplify these more mechanistic issues.

External Factors

Some skeptical observers claim that co-financing has merit only when LDC borrowers are unable to obtain medium- and long-term financing from private sources on their own. According to

this line of reasoning, in recent years the large international banks have been falling over themselves to lend to Third World countries, as can be evidenced by the narrower spreads and longer maturities that became available in 1978 and 1979. ("Spread" is the difference between the interest rate which a bank pays to borrow its funds, and its lending rate.) This increased competition among the banks results from such factors as the high levels of liquidity due to petrodollar deposits, combined with relatively low loan demand from traditional borrowers, and the recent entrance of large international banks from Japan, Germany and other countries to challenge the top ten or twelve U.S. banks. In short, it has been a "borrowers' market". Some contend that because of relatively easy access to alternative sources of credit there is only a marginal need for co-financing.

But this so-called borrowers' market has served the capital needs of a privileged few, while the majority of Third World borrowers are either excluded from the market altogether, or they must borrow funds at higher rates and shorter maturities. In the last quarter of 1978, for example, eight middle income countries--such as Spain, Romania, Mexico, Brazil and Korea--accounted for 70% of all Eurocurrency credits extended to developing countries. For the other ninety or so Third World nations, it could hardly be called a borrowers' market. Due to a lack of knowledge of this other group of LDC borrowers coupled with perceptions of high risk, private bankers are wary of lending to these countries.

The potential market for co-financing is in some of these more obscure countries, and it is here that private bankers have the most to gain from information exchanges with the official financial institutions. Moreover, the added protection provided by the cross-default clause is most significant in these countries that do not have a history of international borrowing. The comparative advantage of co-financing thus lies with those countries that are on the margin of the international capital markets. For them, the benefits provided by co-financing arrangements are most likely to make the difference between acceptance into the market place and exclusion.

For all these reasons it is difficult to reject co-financing with the argument that adequate credit is already available in international markets. Supply and demand factors are in constant flux; borrowers that have ready access today may be completely cut off from the market in the future. Bankers assess profits derived from international markets in light of alternative lending opportunities in the domestic market. Co-financing can play a more significant role in the future than it has in the past if it is made attractive for those borrowers and lenders who stand to gain most when credit is not readily available through traditional channels.

Although it is difficult for policymakers to control supply and demand factors to the benefit of co-financing, one external factor that is subject to the influence of officialdom is the regulatory environment. As a result of the unprecedented increases in lending to developing countries after the 1973 oil crisis, the U.S. Congress, the Comptroller of the Currency and the Federal Reserve have all become actively concerned with the possibility that private banks were becoming overextended in certain developing countries. The threat of stiffer banking regulations might inadvertently work to the benefit of co-financing.

Mr. John Heimann, Comptroller of the Currency and chief regulator of U.S. banking activity, expressed official concern about this trend in a speech to a group of bankers in April 1978. In words that left little room for ambiguity, Heimann stated that "Banks can and should exercise the self discipline which will lead to a safer and more functional international banking atmosphere." He cautioned his audience that "if the banks do not introduce discipline, the supervisor must." Heimann's warning came at a time when official concern was mounting to new heights that private banks were endowed with too much freedom to lend when, where and as much as they liked to foreign borrowers.

As a result of this official consternation, the Comptroller of the Currency resurrected a century-old statute that had long been ignored by bankers and regulators alike. It stipulates that a nationally chartered commercial bank's lending to any one borrower should not exceed ten percent of its capital and reserves. Nineteenth century architects of this seemingly prudent law could not possibly foresee the era in which some banks conducted more than half their business outside the United States. Nor could they anticipate that future bank clients would include not only individuals and corporations but also countries that would borrow as much as one billion dollars at a time (e.g. Nigeria, Venezuela).

Nevertheless, depending on how strictly the regulators choose to interpret the law, it could affect future international activities of some large U.S. commercial banks that currently exceed the 10 percent limit in some countries. For example, there has been considerable debate on whether "one borrower" includes all loans to a national government and its public agencies, or only those credits extended to the government itself. In order to escape the more severe interpretation, which would include all lending to the public entities of a given country, the lending bank must establish that separate borrowers have independent means to service the debt (i.e. the agency is not relying on other government funds). If the U.S. government wants to provide the concept of co-financing with a valuable boost, it could amend the law to exempt co-financing from the 10 percent limit, thereby facilitating the capital flows to developing countries at little or no cost.

These factors contribute to an environment in which it is unlikely that the large U.S. private banks will be able or willing to sustain the unprecedented levels of international lending in the years ahead. Already in 1978 there was evidence that some U.S. banks were undergoing retrenchment after the explosion of earnings that resulted from their international operations in the mid-seventies. According to one study of the ten largest U.S. banks, in 1978 international earnings increased at a rate of 14.3% from the previous year, compared to a compound growth rate of 22.8% per year in the 1972-77 period. The same analysis also revealed that the contribution of international operations to total bank earnings declined to 45.9% in 1978 from 50.9% the year before.

Another favorable factor that is likely to influence participation by private lenders in co-financing schemes is the behavior of their competition. Until recently, private international lending activity has been dominated by ten or twelve large U.S. commercial banks. They have had the largest networks of overseas offices, and they have devoted years and considerable expense to the development of highly skilled staff that could operate effectively in an overseas environment. As a result of these efforts, they developed an excellent client base that ensured their predominance in the market. Not surprisingly, these same banks also were most extensively involved in co-financing arrangements with official institutions.

But the competitive landscape is changing in ways that are likely to have a positive impact on co-financing. At the same time that some banks are reducing their level of international activity, others have a desire to be more active in foreign markets. A number of European and Japanese private banks that rival the largest U.S. financial institutions in size have developed a strong appetite for international lending. As a result of this surge of competition, the U.S. share of total private bank lending to non-OPEC developing countries fell from 65% at the end of 1976 to 54% eighteen months later in June 1978.

Co-financing provides an excellent vehicle for this "non-traditional" group of lenders to break into the international arena. Lacking overseas branches, a sufficient number of experienced staff, and a solid client base, these lenders are quick to grasp the potential benefits of entering into co-financing arrangements. They will be interacting with the staffs of the official lending institutions which have considerable experience in the field of international project finance. Equally significant, these relative newcomers recognize the difficulty of meeting prospective clients and establishing solid, long-term banking relationships outside of their traditional markets. Co-financing provides a valuable service by opening new doors and providing exposure to a large stable of potential new customers.

Operational Factors

One bottleneck that is more troublesome than might be expected is the paucity of acceptable projects. In the case of the World Bank, for example, it is not unusual to spend years finding and developing a project that adheres to the Bank's standards. Because of the enormous amount of staff time devoted to project identification and appraisal, there are only a limited number of projects in the preparation stage at any given moment. In the fiscal 1978, the Bank approved 137 projects in 46 countries. For a variety of reasons, such as the type of project or the length of time devoted to appraisal, some of these projects may be inappropriate for private bank participation. Thus, the mere number of projects available for co-financing has become a constraint to its wider usage, particularly as the number of banks interested in the concept has grown larger. As one World Bank official explained, "Find me a good project, and I'll have seven or eight private banks lined up to participate by tomorrow morning."

But what is a "good" project? Judging from the record to date, only projects in the more developed countries of the Third World have been identified as appropriate for co-financing. As noted previously, Brazil accounted for a full 50% of the first eighteen co-financings signed by the World Bank, while not a single African nation obtained funds in this form. In order to overcome the alleged problem of project scarcity, the official lending institutions must make a more concerted effort to identify projects in some countries that lack easy access to the capital markets, and the concept of co-financing must then be marketed more effectively with private bankers.

Part of the problem lies with the caliber of communication with the private financial community and among the development agencies themselves. For example, there is a need for some form of regular publication or private communicate that fully informs the largest private banks throughout the world of potential co-financing opportunities. Moreover, it would be useful if all bilateral and multi-lateral development agencies were included in this communications network, since they normally maintain large numbers of staff in the field who are in an excellent position to identify potential projects.

Another potential issue frequently heard within the official lending institutions themselves pertains to cost. As the number of co-financing arrangements increases, according to this line of reasoning, the financial and administrative burdens associated with project appraisal, loan negotiations, and loan supervision become increasingly significant. Questions emerge, particularly

in cost-conscious public institutions, regarding the wisdom of providing valuable services to the private banks without asking for some payment in return. As one official from an international lending institution said recently, "We seem to do all the dirty work, and then the private bankers step in and earn a nice profit." But, on the other hand, if the official institutions charge a fee for their services, they run the considerable risk of discouraging private bank participation.

Most importantly, officials who accept this line of reasoning have lost sight of one of the principal missions of development agencies, namely to promote the flow of productive resources to Third World countries for development purposes. Unlike private banks, that are accountable to their shareholders to make a reasonable profit on their operations, the official lending institutions are in business to provide development assistance--in the form of both financial and technical assistance. Accordingly, if they provide a service to private financial institutions that induces them to increase their financial commitments to developing countries, the issue of cost should not be viewed solely from the short-sighted perspective of administrative costs.

An issue of equal concern to private and public lenders is the uncertainty surrounding the outcome if default occurs. Most co-financing agreements include a cross-default clause that permits the official lender to take severe action in cases of default or lengthy delays in repayment. However, this clause normally stipulates only that the lender has the option to take action, and there has not yet been a test case. Some claim that until there is a precedent and the effectiveness of the cross-default clause is assured, borrowers are unlikely to take it seriously, which in turn will discourage private banks from participating in co-financings.

The counter argument, of course, is that the official lending institutions will be quick to implement the full force of the cross-default clause, if for no other reason than to protect the credibility of the co-financing concept. If a borrower fell significantly behind in repayment of debt service and the official lender failed to carry out the cross-default sanctions, co-financing would be viewed as a farce by private lenders and they would be reluctant to participate in future loan agreements with the development banks. Because of the high stake that the official lenders have in generating private sector support for co-financing, so the argument goes, it would be foolhardy to appear soft on this key issue.

Not surprisingly, realism falls somewhere between these two extreme contentions. Regardless of whether or not an international

loan involves a co-financing, banks have always had difficulty enforcing sanctions--even when penalties were explicitly stated in the loan agreements. On the one hand, they are understandably reluctant to back away from the legal agreement for fear that other borrowers will think that the sanctions are merely a paper tiger. On the other hand, if severe action is taken against the borrower the likelihood of repayment may become even more remote. To demand early repayment, or to suspend further disbursements when a borrower already is in financial straits may be counter-productive,--particularly if the bank has additional loans outstanding in the country. For bankers, on-time repayment is the ideal; but even late repayment is a far more acceptable second-best solution than no payment at all.

There is no doubt that sooner or later a co-financing borrower will encounter debt service difficulties. In all probability the outcome will follow a pattern similar to other international lending proceedings. There will be no outright default. There will be no outcry that the cross-default clause is meaningless. Rather, the lenders are likely to have some forewarning of debt service problems on the horizon, negotiations will occur, and some form of rescheduling or refinancing will be agreed on in exchange for assurances of reforms that will increase the likelihood of repayment. Even under the most extreme circumstances, a private banker can correctly reason that the involvement of the World Bank or some other official agency in the negotiation process is likely to enhance the bargaining position of the private lenders. Contrary to the alarmist view that the concept of co-financing could be irreparably harmed by repayment difficulties, it is more likely that the borrower will suffer considerably more damage in terms of the effect on his credit rating in international capital markets.

Conclusion

None of the difficulties that co-financing has encountered in the initial years of its development appear to be insurmountable. Moreover, even though the use of co-financing has been limited to a relatively small number of borrowers and lenders, in those cases where the concept has been employed the impact on national development has been positive.

Regardless of whether or not co-financing results in a larger total flow of funds to developing countries, it does channel more private capital into more productive, development-oriented projects. By working more closely with official lending institutions than ordinarily would be the case, private banks are ensuring that their funds will be funneled into projects that have been identified by both the borrower and the official lender as having an important development impact. This too is an important form of additionality.

Another outgrowth of co-financing that could provide additional benefits to Third World borrowers in future years is the prospect of access to other types of external credit. Thus far all co-financings have taken the form of syndicated loans. But once the advantages of the concept are more broadly recognized by the international community of private creditors, it is likely that a co-financing might include a World Bank loan, for example, the issuance of a Eurobond in the public market--or a private placement (i.e. a non-bank loan, from an insurance company or pension fund for example). In either case, the private creditors would still benefit from the same factors that currently attract banks to co-financing, such as the cross-default clause. In this case, co-financing provides borrowers with valuable exposure to additional types of creditors and alternative borrowing instruments.

On another front, it is likely that the future complexion of the international financial community will be colored by changes in the regulatory environment. The U.S. Congress and the Comptroller of the Currency already have made it clear that they expect to make their presence felt in a more forceful manner. And with the explosive growth of the Eurocurrency markets, virtually free from legal restrictions until now, it is doubtful that the regulators can long resist the temptation to bring these unwieldy markets under tighter control. Market participants, therefore, are likely to witness a strenuous tug-of-war between the equally legitimate concerns of the regulators and the advocates of a free enterprise environment that encourages entrepreneurship and innovation.

And, of course, there are the omnipresent uncertainties surrounding the supply and demand for credit in the international market. LDC debt will continue to be affected by economic events in the United States, other industrialized countries and, possibly of greatest importance, in the OPEC countries where oil prices are controlled. With the OPEC current accounts surplus declining from a peak of about \$60 billion in 1974 to an estimated \$11 billion in 1978, and now threatening to increase dramatically once again, the liquidity position of private creditors is unpredictable. It is equally uncertain who will be the major borrowers in the next decade.

These are merely a handful of the occurrences that may affect developing country access to private international capital markets in the foreseeable future. But one element can be predicted with certainty: developing countries of all sizes will continue to demand credit from private sources in ever larger amounts in their quest for a standard of living that bears a closer resemblance to that of the developed world. And equally predictably, private creditors will not be willing or able to satisfy all of these demands.

Co-financing is not a cure-all. It is not a bromide concocted to eliminate all the barriers impeding developing country access to adequate supplies of credit. It is one vehicle among many that is available for consideration by borrowers and lenders in the international arena. But, as has been demonstrated in these pages, co-financing has sufficient advantages for all participants that it cannot easily be ignored. As the international financial environment passes through this period of substantial changes, co-financing can become a larger, more significant force than it has been in the past. If it is effectively promoted by official financial institutions (which requires the support of the major donor countries), co-financing should become a major conduit for the channeling of private capital from "those who have it" to "those who don't".

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Co-financing and the OPEC Special Fund

Ibrahim F. I Shihata

[The OPEC Special Fund relies extensively on co-financing, defined here as joining with other organizations--with both official and commercial sources of funds--to finance development projects. The Fund's experience shows that it can expand its activities much faster in this way while keeping down its own staff and costs, thus adding to the scope of its developmental contributions.]

Constituted in 1976, the OPEC Special Fund is the aid facility of the 13 members of the Organization of Petroleum Exporting Countries (OPEC), who have all signed its establishing agreement and contributed to its resources. The Fund began its operations in August 1976 with initial contributions of approximately \$800 million; subsequent contributions, some \$481 million of which are earmarked for transfers to various international aid agencies, have brought the total contributions to date to something in excess of \$1.6 billion. Basically the Fund is entrusted with two functions: that of coordinator of the joint OPEC members policies and activities in the field of external assistance, and that of a collective aid donor in its own right.

In its role as coordinator the Fund, its Ministerial Committee, and its Governing Committee constitute the voice through which OPEC states have chosen to speak on various aspects of their external aid policies. Generally, the Fund has tried since its foundation to play a positive role in supporting new institutions and in developing appropriate policies to effect changes in international economic relations. The main objective is to achieve the establishment of the "New International Economic Order". The participation of the Fund in the creation of the International Fund for Agricultural Development (IFAD), for example, was an effort in partial fulfillment of this objective. OPEC members contributed

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through the Special Fund \$435.5 million--almost half the initial capital subscriptions to this new institution--thus securing two thirds of the voting power in IFAD's governing bodies for developing countries. Another instance is the interest shown by OPEC states in UNCTAD's Integrated Program for Commodities and its main feature, the projected Common Fund: the OPEC Special Fund was entrusted with the responsibility of coordinating the efforts of OPEC members in the negotiations for the establishment of the Common Fund. In another development, the Ministerial Committee, which oversees the activities of the Fund, was instrumental in arranging for the donation of the profits accruing to a number of OPEC states from the International Monetary Fund (IMF) gold sales to the OPEC Special Fund, which in turn donated these profits to the Trust Fund administered by the IMF. A collective donation through the Fund has also been made to finance a number of the UNDP technical assistance regional projects. The task of coordinating the policies and programs of OPEC's national aid agencies is now entrusted to the Governing Committee of the OPEC Special Fund, which has just started to play an active role in this field as well.

The Fund's major role as aid donor on highly concessional terms is, of course, the main reason for its coming into being. The Fund conducts basically two sets of lending activities: (1) it provides balance-of-payments assistance to countries with severe deficits in their current accounts; and (2) it extends loans for economic development projects. All Fund loans have long maturities, and all but a few of them have been granted free of interest. Balance-of-payments (BOP) loans, 76 of which have so far been made, are now extended on a smaller scale than in the past. Generally, when the Fund extends a BOP loan, the borrower government agrees to deposit an equivalent amount in local currency to be used within a reasonable period of time for local cost financing of one or more development projects; when no such use is made of counterpart funds under BOP loans, the maturity of the loan itself is considerably reduced (as an incentive to put counterpart funds to use). As of July 31, 1979, some 72 projects in 40 countries have been approved for financing with local funds totaling \$193 million. Most of these projects were co-financed by other external sources, and a few of them have benefited from additional foreign exchange financing from the Fund itself.

The second type of assistance extended by the Fund is direct project lending, which has now become the Fund's major operational activity. The authors of the agreement establishing the Fund have taken great care to avoid creating another bureaucracy, duplicating organizational structures and activities of other institutions. Rather, they have sought to create an institution empowered with swift decision-making capabilities and a lean staffing structure to avoid the bottlenecks and delays so characteristic of larger, more formally structured bodies. When a well-studied project is submitted for the Fund's consideration, the time lag between receipt of the

documentation and final approval is rarely more than three months. To date, (July 31, 1979), the Fund has committed \$474 million for the financing of 126 projects (including the 72 projects financed by local counterpart funds), covering some 61 countries in the developing world. Of the projects financed, power has the largest share (31.5 percent) followed by industry (26.6 percent), agriculture (21.2 percent), transport (15.7 percent), public utilities (3.4 percent), and telecommunication (1.3 percent). Some of these projects are self-liquidating, with their debt obligations serviced from cash-flow earnings; others are so-called "green-field" investments, that is, having a commercial component but requiring complementary financing for basic infrastructure support; most projects are simply infrastructure projects.

Co-Financing with Other Aid Agencies

Co-financing is now a general phenomenon in OPEC assistance. According to OECD sources, by the end of March 1978 up to 106 projects (including projects in an advanced stage of negotiations) have been financed jointly by OPEC and non-OPEC sources. The total amount involved was roughly \$7.3 billion, of which some \$3 billion were from OPEC sources. In the case of the Fund, its project assistance has been extended swiftly, largely as a result of the close working relationship established by the Fund with almost all the international development aid agencies, be they worldwide or of regional character, as well as with national aid agencies belonging to OPEC members. The essence of this relationship was laid down in the agreement establishing the Fund which specified that the appraisal of projects to be financed by the Fund must be undertaken by "an appropriate international agency or by an agency of a member country." The authors of the agreement directed the Fund to draw heavily on the talent and services of other established agencies for the administration of its loans. Implicitly, this has meant that the Fund would give priority to co-financing arrangements and, in fact, this has been the case in practice.

The advantages of co-financing arrangements include the Fund's considerable savings in time and cost; the Fund incurs no cost for the appraisal and project-monitoring activities carried out by other institutions on its behalf. More importantly, co-financing allows for the immediate implementation of projects which might otherwise be indefinitely postponed until the financing gap could be filled. As is well known, such a postponement, if not avoided, almost always entails a widening of the very gap it was meant to help bridge, due to cost overruns. For the Fund, this role of "gap financier" also makes it in effect a lender of last resort; being drawn in rather late in the project preparation cycle, the Fund is in a better position to give objective consideration to the merits of projects sub-

mitted for its partial financing. However, the Fund has also been involved occasionally in the partial financing of "virgin" projects, where it played a catalytic role seeking complementary financing from other sources.

Once a go-ahead decision for a particular project is made, co-operation with the other aid agency extends to cover the project implementation period. The framework of this cooperation at the postinvestment stage is detailed in a letter of cooperation signed by the Fund and countersigned by the other aid agency which, in so doing, assumes the responsibility for administering the loan on behalf of the Fund. The first such agreement was implemented in conjunction with the World Bank, and it now exists with almost all regional aid agencies and with practically all the national development funds of OPEC members. In each case, the loan administrator conducts the normal supervisory work required to monitor the overall progress of project implementation with the same diligence it would in administering its own loans. The Fund maintains the right to participate in supervisory missions, and it receives in any event the project progress reports. The loan administrator reviews withdrawal applications for the Fund loans and issues appropriate consent, on which basis the Fund directly handles the disbursement process. Usually there is provision for consultation on a regular basis among co-financiers, and both parties agree to refrain from suspension or cancellation of the loan without mutual consultation.

Co-financing with Commercial Banks

Co-financing of development projects in the Third World is a rapidly changing activity. Its rise in recent years has been limited mainly to official aid agencies lending on concessional terms. However, a number of these agencies have been encouraging co-financing with private sources of funds, either through public issues by borrowing countries in the principal capital markets, through private placements by institutional investors, or by associating their financing with private bank loans.

Demand for capital from private institutions and commercial banks in particular will, in my view, be increasing in the future. The reason is simple: capital requirements for infrastructure and commercial investments have grown, and will continue to grow--as a result of increasing economies of scale reflected in project design, as a result of the rapid technological change which often translates into higher capital needs, and last, but certainly not least, as a result of the ever-present inflation. In fact, the increase in capital requirements of individual projects is becoming such that many investment undertakings are escalating beyond the financing means of any single source. For instance, two recent projects approved for

co-financing by the OPEC Fund, the Arab Potash project in Jordan and the Guelb Iron Ore project in Mauritania, required close to half a billion dollars each. The financial plans of both of these projects included substantial credits from commercial sources.

Looking into the future, the parade of projects where co-financing is not only feasible but is perhaps mandated by capital needs and shortages seems endless. Despite the currently flagging economic situation, as the recovery in the industrialized countries has yet to gather pace, the trend towards higher commodity prices should improve the export performance of developing nations. The brighter future for commodity exports, coupled with the current trend toward tighter economic and fiscal policies in the Third World, and generally greater discipline in their economic management will, one hopes, reduce lending risks and increase the flow of capital for economic development.

For these reasons, it would seem that project financing in developing countries by commercial banks offers significant potential. Estimating the magnitude of financing which may be or should be forthcoming from commercial banks can only be a subjective exercise at this time; but there is no doubt that a level of external financing acceptable to developing nations, particularly those in the middle-income group, can only be achieved if commercial banks increase their exposure to the Third World by substantial absolute amounts over the next several years.

How, then, can this increase in commercial bank exposure come about without jeopardizing the financial position of these institutions--in whose well-being we all share an obvious interest? One must not overlook the disadvantages of banks in terms of access to country information for purposes of risk assessment. Multilateral institutions, such as the IMF and the World Bank as well as the regional OPEC aid agencies, having more ready access to country information, should do their part by making data on indebtedness and other critical performance indicators available in individual cases (with the consent of the governments concerned), and by encouraging exchanges of views between commercial bankers and concessionary aid donors. The same aid donors may also play a more active role in bringing commercial banks and other sources of financing, be they in Western or OPEC countries, into their activities--at least in cases where co-financing with the latter is likely to produce additional benefits to recipient nations.

Commercial and investment banks, on the other hand, could do their part by introducing more flexibility into their lending terms. Experience has shown that the profitability of commercial projects is more sensitive to cash flow effects in the short run than to the long

run cost of borrowing for such projects. If commercial banks could grant longer maturities, the viability of projects--particularly large, capital-intensive projects with a very gradual cash flow build-up--might be enhanced. This, of course, raises the issue of the short-term nature of many OPEC deposits which, some will argue, stands in the way of allowing the banks to go into long-term lending. Such an argument may be valid for particular banks, but it should not apply to the banking system as a whole. It should be possible for commercial banks to devise some sort of collective action, with the cooperation of national central banks and with the IMF on the global level, to help protect the banks against the risks involved in the situation where they receive short-term deposits but extend long-term credits. Efforts should also continue towards creating more favorable objective conditions for creditors, and more flexible banking techniques that would make longer-term deposits more attractive as investment propositions.

In any event, the paramount benefit of co-financing is the increase in external assistance it brings. Strictly from this perspective, changes in maturities and even in interest rates that could result from co-financing may be of secondary importance. The OPEC Fund's experience, in a way unique since co-financing has become the norm in its activities, has indicated certain areas in which co-financing with commercial banks may be desirable if not, indeed, ideal. One example is the case of "green-field" commercial investments for which basic infrastructure support is required. In these projects, commercial investments and development aid can be pooled for the benefit of all. Under appropriate financial packages, a project may be structured into different components, depending on the type of financing required for each. The commercial component can be financed with equity and commercial loans, while the infrastructure component can be financed with concessionary aid. The overall return on the total amount of capital employed will be such as to ensure a strong incentive for all parties on the basis of the project's merits alone. Other benefits of this scheme are obvious; the concessionary lenders would benefit from the opportunity of diversifying their aid, both within a borrowing country if they have definite allocations for each nation, and more generally within the geographical sphere of their lending activities. The commercial banks would still get a fair return on their investment. And the developing countries could benefit most from this marshaling of greater amounts of external capital, with the obvious advantages of increased investment, speedier and more efficient disbursements, and savings in time and procedures.

One must realize, nonetheless, that a blanket increase in financial cooperation among concessionary and private sources of finance is easier said than done. It has been mentioned earlier that com-

mercial banks do face particular problems in increasing their exposure in developing countries--indeed, many of them already feel that they may have overexposed themselves. The first difficulty is of course risk, and its appropriate assessment and trade-off with reward. We have touched on the contribution that international aid institutions could play by disseminating, with the approval of governments, the information at their disposal. Another technique which could be applied more consistently is to include a cross-default provision in the loan agreements of the concessionary co-financiers which enjoy a stronger security than commercial banks for their investments. One could assume, however, that such a technique would be used only to stimulate the flow of additional resources which would not be available otherwise on reasonable terms.

So far, banks have tried to cover the additional risk of lending to developing countries with lower credit ratings mainly through applying higher interest rates, the higher spread being a self-insurance premium against default. One may ponder whether the benefits, in the terms of cost savings to consumers, which have resulted from the introduction of group plans in the insurance industry might be duplicated in the field of banking. Specifically, could not the self-insurance sought individually by banks through their higher interest rate be transformed into a collective insurance pool, whereby risks would be uniformly spread in the industry and the cost to the high-risk borrowers reduced accordingly? Such a scheme would probably receive the support of concessionary sources of finance. These, in turn, could consider the possibility of guaranteeing commercial credits, substantially reducing the risks of commercial lenders. This latter type of cooperation should translate into net additional benefits to developing countries in the form of reduced cost of borrowing and incremental increases in capital transfer from commercial sources.

One should not unduly minimize the risk facing commercial banks. The risks in commercial bank lending are real, although in reality I think that the whole problem of less-developed countries' (LDCs') indebtedness is being magnified with the tendency to treat all developing nations as a single homogenous group. Some countries, no doubt, have relatively large outstanding debt burdens, and some may even already have borrowed beyond their prospective debt-servicing capacity. It is admittedly unfair to banks, and in any case unrealistic, to request commercial banks to increase their exposure in these states. Such countries, unfortunately, may have to remain for a considerable time to come the favored clients of only the most concessional sources of finance. Yet, just as a sneeze does not necessarily mean pneumonia, the problem of a few should not be interpreted as the widespread problem of all. The recent earning figures of some of the big international banks suggest, to this

writer at least, that banks will maintain their outward-looking policy with regard to the developing world. The challenge now before them is whether they will be forward looking as well.

While project co-financing between concessionary aid sources and commercial banks can be of mutual advantage to both types of institution, it is not the only appropriate channel for commercial banks to increase their project financing. Commercial banks are called upon to embark unilaterally as well as more aggressively in project financing, even if it means diverting for this purpose part of their lending portfolio where the proceeds are generally not earmarked and, as a result, the productivity is, at best, questionable. In fact, banks and similar financing institutions could focus their lending on well-chosen self-liquidating projects where potential risks are certainly not greater than they would be in the case of general purpose lending. In addition to government guarantees for the loan, the tying of the repayment to project earnings provides further security. Some banks have built up impressive internal staff and capabilities to expand the finance of venture capital. Whether or not this will become a trend will depend on such factors as the initial success of banks gearing for this relatively new field of business, and on the cooperation they provide and receive from larger multilateral aid agencies and from the borrowing countries themselves. The truth remains that an increase in project lending translates into greater real investment which, if related to sound priority projects, seems to offer, on a global basis, the solution for a world economy troubled with gross imbalances.

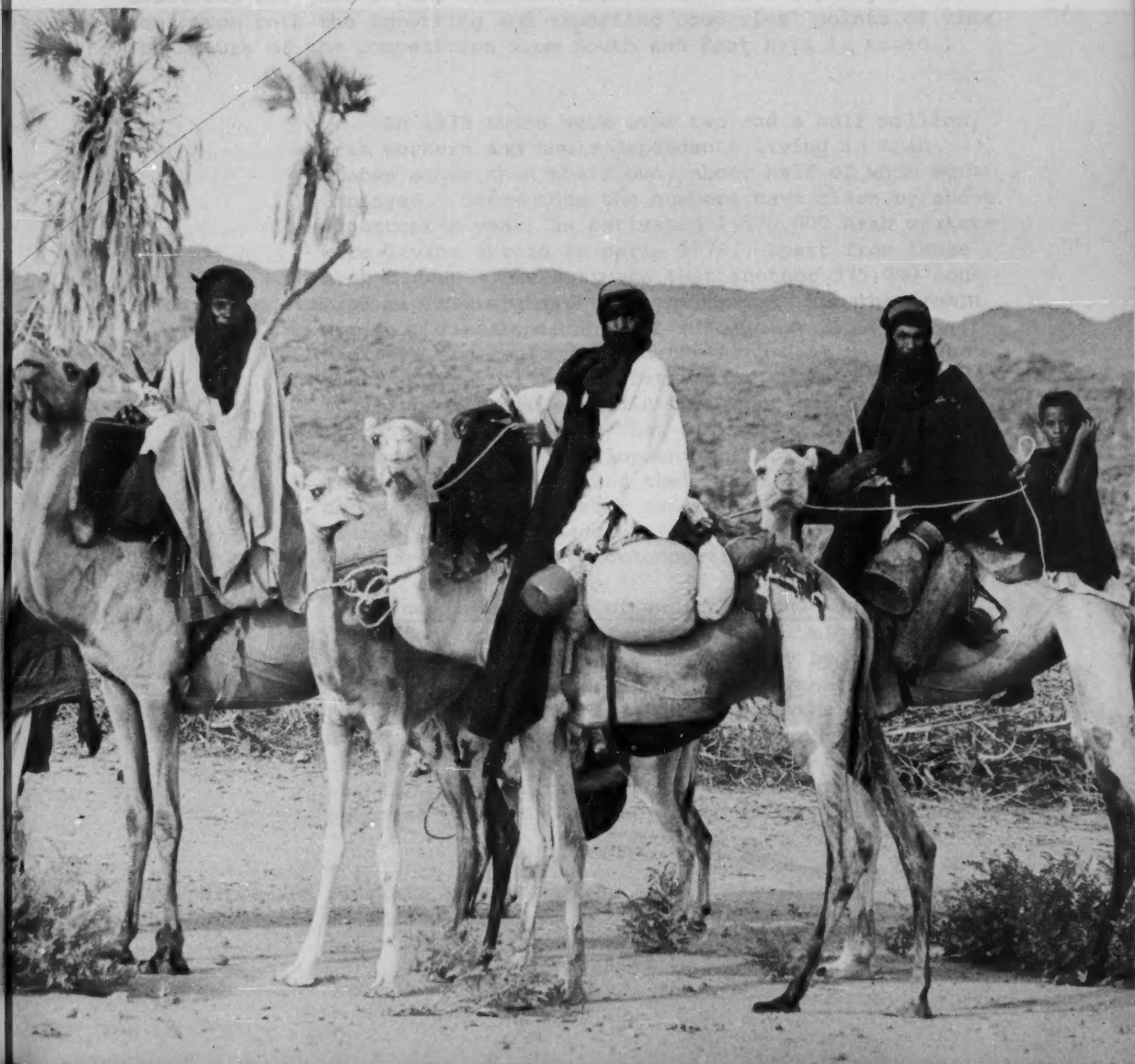
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INTERNATIONAL MIGRATION

Migration for Employment Among the Arab Countries

Stacy Dick and Clyde Sinclair

[This article examines the large-scale recent migrations from Arab countries for employment to the Gulf and India, analyzing their causes and the resulting economic and social effects. It also discusses the competition from South and East Asia in labor.]



INTERNATIONAL MIGRATION

The United Nations Commission on International Migration (CIM) was established in 1953 to coordinate international migration policy and to provide technical assistance to governments. The Commission's work is based on the principle that migration is a normal and natural phenomenon and that it should be managed in a way that is beneficial to all countries involved. The Commission's work is divided into three main areas: research, technical assistance, and policy development. The Commission has published numerous reports and studies on migration, and it has provided technical assistance to governments in many countries. The Commission's work is aimed at promoting the benefits of migration and at reducing the problems associated with migration.

Niger's Touareg nomads migrate freely across international borders.
(Photo: U.S. Agency for International Development).

Migration for Employment Among the Arab Countries

Stace Birks and Clive Sinclair

[This article examines the large-scale recent migrations from Arab countries for jobs in the Persian Gulf and Libya, analyzing problems from both the importing and exporting countries' points of view. The nature of the competition from South and East Asia is noted.]

In 1975 there were over two and a half million Arab workers and their dependents living in Arab states other than their own, about half of whom were employed. Since then the numbers have risen by about 9 percent a year; an estimated 1,570,000 Arab workers were living abroad in early 1979. Apart from these Arab migrants, we estimate that another 975,000 non-Arab migrant workers were employed within the Arab world in January 1979, a total of over 2,500,000 migrants for employment in the Arab Near East. The sheer volume of this migration for employment, its relative importance within the labor markets of the Arab world, the impact that migration for employment has upon economic development for both sending and receiving countries, and the mutual interdependence among nations that labor exporting and importing brings about have made migrant labor movements a leading issue of the contemporary Near East.

The distribution of wealth in the Near East. The direction and volume of international migration for employment are determined essentially by the exploitation of oil resources, and the investment of royalties to develop the domestic economies of the oil-rich states. Oil-exporting and non-oil-exporting states can be referred to as capital-rich and capital-poor states. Table 1 ranks the major Arab states by gross national product (GNP) per capita. The Table shows a

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range from almost \$16,000 in Kuwait down to \$250 for the Yemen Arab Republic. It is this disparity, in conjunction with the relatively short geographical distances over which it occurs, that is the essential motivating force behind migration for employment in the Arab world. Between the wealthy countries with average incomes over \$4,000 and poorer countries under \$1,000, there is an intermediate group: in the cases of Bahrain and Oman this is because of relatively meager oil endowments; in Iraq, however, it is the large national population which serves to reduce the value of per capita GNP, despite considerable income from oil.

TABLE 1

SELECTED ARAB STATES: RANKED BY GROSS NATIONAL
PRODUCT PER CAPITA, 1976

STATE	GNP PER CAPITA US\$
Kuwait	15,840
United Arab Emirates	13,990
Qatar	11,400
Libyan Arab Jamahiriya	6,310
Saudi Arabia	4,480
Oman	2,680
Bahrain	2,140
Iraq	1,390
Tunisia	840
Syria	780
Jordan	610
Sudan	290
Yemen (PDRY)	280
Egypt	280
Yemen (YAR)	250

Source: World Bank, 1978, Table 1, pp. 76-77 and p. 114.

State incomes from oil are shown in Table 2. Saudi Arabia clearly dominates: it enjoys revenues almost four times those received by the next most important Arab oil exporter - Iraq. The exports of oil from Iraq, Libya, Kuwait and the United Arab Emirates are all of the same order--they each receive between \$8 and \$10 billion per annum; their differences in average income (Table 1) are explained by variations in their populations.

TABLE 2

MAJOR NEAR EAST OIL PRODUCERS: PRODUCTION AND
REVENUES FROM OIL, 1977

STATE	(MILLION BARRELS A DAY)	(\$ BILLION)
Saudi Arabia	8.8	37.8
Iran	5.2	23.0
Iraq	2.1	9.6
Libya	2.0	9.4
Kuwait	1.9	8.5
United Arab Emirates	1.9	8.3
Algeria	1.1	5.6
Qatar	0.4	1.9

Source: Shell Briefing Service, 1978, p. 9.

Population and Workforce in the Arab States

In terms of potential economic development it is a cruel irony that, generally speaking, it is the states without oil which have the larger populations. Egypt, the most populous state in the Near East with 38 million inhabitants (as of 1976), does produce some 400,000 barrels of oil per day--equivalent to Qatar's production. All of Egypt's oil, however, is used domestically; and with a population 630 times as large as Qatar's Egypt ranks near the foot of the table of per capita incomes, with Qatar near the top. Egypt (38,200,000) is followed by Morocco (18,400,000), Algeria (16,900,000) and the Sudan (14,100,000). By contrast, tiny Qatar has only 68,000 nationals, the United Arab Emirates 200,000, and Bahrain 225,000; Kuwait and the Sultanate of Oman are slightly larger with populations of 472,000 and 550,000 respectively.

Of the more capital-rich states, Iraq has a substantial population (11,100,000). Iraq's particular combination of resources--a substantial population, large oil endowment, and extensive cultivable area--suggests an especially large potential for economic development. Algeria's situation is closest to that of Iraq (as is that of Iran among non-Arab states). The two wealthier states of Saudi Arabia and Libya, with populations of 4,600,000 and 2,100,000 respectively, are finding that even these numbers do not comprise a sufficient population from which to draw a labor force to man a

modern industrial sector. Nor do they amount to a substantial domestic market.

Population growth is serving to aggravate the differences in wealth between the Arab states. All the indigenous populations of the region have in common a high rate of increase: few states have natural growth rates of less than 2.5 percent; and many are growing at much higher rates. But the differences in absolute scale of national populations combined with differing resource endowments make these high growth rates highly significant. At recorded rates of increase, Kuwait's indigenous population is doubling every 16 years, Egypt's every 30 years. However, when Kuwait's population doubles in 1991 it will be about 950,000, while Egypt's will then be some 55 million.

Such continued population growth in the capital-poor states makes substantial improvement in per capita gross national product difficult to effect. Indeed, already in the case of Egypt and Morocco, population growth is regularly cited as the most serious obstacle to improvement of living standards and economic development, one which will become yet more acute in the future. Economic growth (at constant prices) in per capita terms is very small in some of these countries; yet it will be a number of years before the present high fertility rates fall sufficiently to slow the growth of their populations.

In contrast, there is no particular reason for most of the capital-rich states to constrain their rate of natural population growth. Their national populations are small, they see themselves as being short of manpower, and so they are prepared to encourage population growth in order to secure larger national workforces in the future. In any case, given the supplies of capital available in these oil-exporting states, real growth in per capita terms will continue, and could accelerate further, even with sharp rates of population growth.

The national labor forces. Table 3 shows the labor forces of both types of Arab states. The overall crude participation rate of the capital-poor group is almost 30 percent (i.e. the proportion employed). This rate would be even higher if all the women who work on the land were consistently recorded in censuses and in employment surveys as being "in employment"; they are rarely so recorded. Overall, the workforces of the capital-poor countries total more than 20 million, while those of capital-rich states comprise only 1,800,000 persons, less than one-tenth of the former. The crude participation rates in the capital-rich states are much lower, averaging less than 22 percent. The reasons are: large numbers of inhabitants below working age (e.g. 48% under age 15 in Saudi Arabia, 49% in Iraq);

increased numbers in secondary and higher education rather than at work; and relatively few women working.

TABLE 3

NATIONAL POPULATIONS AND WORKFORCES, 1975

STATE	POPULATION	WORKFORCE	CRUDE PARTICIPATION RATE (%)
<u>Capital-Poor</u>			
Egypt	37,364,900	12,522,200	33.5
Sudan	15,031,300	3,700,000	24.6
Syria	7,335,000	1,838,900	25.1
Yemen (YAR)	5,037,000	1,425,800	28.3
Jordan (East Bank)	2,616,700	532,800	20.4
Yemen (PDRY)	1,660,000	430,500	25.9
TOTAL	69,044,900	20,450,300	29.6
<u>Capital-Rich</u>			
Saudi Arabia	4,592,500	1,026,500	22.3
Libya	3,334,700	449,200	20.2
Oman	550,000	137,000	24.9
Kuwait	472,100	91,800	19.4
Bahrain	214,000	45,800	21.3
United Arab Emirates	200,000	45,000	22.3
Qatar	67,900	12,500	18.4
TOTAL	8,320,200	1,807,800	21.7

Sources: These figures are authors' estimates, based on a large number of official and private sources.

Economic Development of the Capital-Rich States

The central problem facing the capital-rich states, especially since the oil price rises of 1973, has been that of how to maximize developmental benefits from their oil income in the long run. Most of the oil-exporting countries chose to extract and sell more oil than they needed to pay for current imports; the resulting surplus revenues were largely invested abroad. Their dependence on the export of one resource for income was causing these oil-exporting states concern, however; so was the real rate of return that their choice of investments abroad could yield. These factors created a strong incentive for the oil-exporting states to industrialize their domestic econ-

omies, to transform financial capital into physical assets which would later yield an income independent of oil. Establishment of industry was also facilitated by the cheap source of power represented by natural gas.

The shared features of the oil exporters' economic development plans include: a large and expanding government sector, ambitious industrial development programs based on heavy industry, and an ever increasing standard of welfare and income. Industrialization is seen as an essential and central component of domestic development. The creation of industrial sectors has necessitated a rapid expansion in infrastructure, as have the burgeoning demands and aspirations of the national populations. Therefore, the provision of electrical generating plants, roads, ports, airports, telephones, hospitals, clinics, schools and other physical and social infrastructure absorb much government finance and effort.

Before 1973, industrialization and infrastructure provision were proceeding at a relatively gentle pace. Infrastructure provision took much of the financial resources of the governments prior to 1974. The 1973 oil price rises multiplied the oil exporters' ability to invest, and the pace of development in these states accelerated dramatically as plans for heavy industrial areas and secondary industry were projected on a new scale, almost unprecedented in the Third World. A principal limitation on this economic transformation of the capital-rich states was a shortage of manpower, indeed their planners saw labor shortages as the major constraint to development--though shortcomings in the physical infrastructure were also present.

The resulting demand for labor of virtually all skills and qualifications in the oil-exporting states, remarkable in its strength because of the financial resources of these countries combined with their urge to develop rapidly, is the essential moving force behind the international labor migration system. The effects on the regions' labor markets were great. The capital-rich states were embarking simultaneously on their development plans' most labor intensive stage, the construction phases, from a very small labor base of their own workforces. Their governments' response to this manpower shortage was to allow market forces to reign. Labor was allowed in with very little official restraint but for the process of obtaining visas; this became slow as the personnel granting entry permits were swamped by applications. Nevertheless, as is well known, the result was a massive inflow of workers to the oil-exporting states. Most of these incoming workers came from the capital-poor states of the Arab world.

Economic Development in the Capital-Poor States

Unlike their oil-exporting neighbors, the capital-poor states have not experienced, and are not about to enjoy a spurt of economic growth. Growth of gross domestic product in real terms is small, and on a per capita basis is falling in some cases, as in Egypt and Jordan. Economic development in the capital-poor Arab states generally resembles that in other countries of the Third World with high rates of population increase, low domestic savings rates, slow growth in fixed domestic capital formation, and high rates of unemployment. Recently, they have also experienced high rates of domestic inflation.

A rapid rate of population increase in the past two or three decades is responsible for many weak facets of their economies. It has resulted in a large share of potential investment resources being allocated to health services and education. Large numbers of the educated leaving school, as well as those with little schooling, cannot find jobs; and governments have taken in many of the erstwhile unemployed. Industrial development in the capital-poor states has been limited and not too successful; and the industrial growth which has taken place is not very effective in generating employment. Agriculture, which employs a large proportion of the labor forces in the capital-poor states, is often in decline and in need of modernization and investment. Rural-to-urban migration has led to overcrowding in cities and has aggravated unemployment, underemployment, and contributed to the proliferation of the informal sector. Conflicts with Israel have also drained the exchequers of Jordan, Syria and Egypt.

The International Transfers of Labor

The prevalence of unemployment and underemployment amongst the relatively large workforces of the capital-poor states, together with the small indigenous workforces and ambitious development plans of capital-rich states were the pre-conditions for the active labor migration system which has characterized the Arab world since the 1950s. The demand for labor in the oil-exporting states reached a new pitch after 1973 when a stepped-up rate of economic development ensued, and the scale of migration was transformed as a consequence. So small are the indigenous workforces of oil-rich states that today the migrant workers represent four fifths of the workforce in some cases. In some sectors of the economy requiring specialized skills, immigrants do comprise the entire workforce.

Table 4 illustrates the extent to which non-national labor contributed to the workforces of the capital-rich states in 1975. In the largest economy and labor market, that of Saudi Arabia, expatriate workers account for more than 40 percent of the economically active.

Among the smaller countries, Kuwait relies on migrant labor to the extent that 69 percent of its labor force are non-nationals, while in Qatar and the United Arab Emirates the percentages rise to 81 and 85.

The large majority of migrant workers in 1975 were Arabs: in the principal countries of employment, Arabs accounted for 75 percent of all migrants, Asians 17.6 percent, Europeans 2.1 percent and "others" about 5 percent. Most Arab migrants work in Saudi Arabia (57 percent); this could be expected in view of the Kingdom's central position in the region, physical size, enormous oil revenues, and its commensurate development objectives and political inclinations. Together Kuwait and Libya account for an additional 37 percent of all Arab migrants.

TABLE 4

EMPLOYMENT BY NATIONALITY IN CAPITAL-RICH STATES, 1975

State	Nationals' Employment	% of Total	Non-Nationals' Employment	% of Total	Total Employment
Saudi Arabia	1,026,500	57.0	773,400	43.0	1,799,900
Libyan Arab Jamahiriya	449,200	57.5	332,400	42.5	781,600
Kuwait	91,800	30.6	208,000	69.4	299,800
United Arab Emirates	45,000	15.2	251,500	84.8	296,500
Bahrain	45,800	60.4	30,000	39.6	75,800
Qatar	12,500	18.9	53,800	81.1	66,300
Total	1,670,800	50.3	1,649,100	49.7	3,319,900

Source: Birks, J. S., and Sinclair, C. A., International Migration Project, Country Case Studies.

Libya's proximity to Egypt and Tunisia attracts workers from these countries, while Kuwait's large Arab community draws on Jordan, Egypt and Syria. Kuwait was one of the earliest oil exporters to begin substantial development activities.

Table 5 gives a breakdown of migrants by country of origin, and their share in their country's total workforce in 1975. Egypt, Jordan and the Yemen Arab Republic were the largest exporters of labor, and together accounted for 73.5 percent of the total migrant workforce. Most Egyptian migrants in 1975 were working in Libya, with an estimated 95,000 (24 percent) in Saudi Arabia. Almost all Yemeni migrants work across their border in Saudi Arabia.

Jordanian and Palestinian migrants in 1975 were working mainly in Saudi Arabia, but also in Kuwait, Libya and the United Arab Emirates. Migrants from this group are generally well educated and consequently highly mobile, and many occupy senior positions in

government and business circles. It should be noted that emigrant labor represented 27-28 percent of the nation's workforce for Jordan, Oman and North Yemen (YAR) in 1975.

TABLE 5
MIGRANT WORKERS AND DOMESTIC WORKFORCES OF LABOR
SENDING COUNTRIES, 1975

Country	Size of Workforce	Number of Workers Abroad	Proportion of Workforce Abroad
Jordan (East Bank)	532,800	150,000	28.1
Oman	137,000	38,413	28.0
N. Yemen	1,070,000	290,128	27.1
Syria	1,838,948	70,514	3.8
Egypt	10,756,000	397,545	3.7
Sudan	3,700,000	45,873	1.2
TOTAL	18,034,748	992,314	5.5

The new scale of economic development transforms migrant labor patterns. By 1975 several aspects of the labor market were changing in response to the transformation of the economics of the Arabian peninsula. The volume of demand for labor was increasing dramatically as spectacular new development plans of the capital-rich states were put into operation with the enhanced oil revenues after 1973, and as the targets embodied in them were even being exceeded. The increased demand for labor engendered by this rapid growth of the capital-rich countries occurred just as Iranian and Iraqi workers, who had gone in significant numbers to work in Saudi Arabia and the Gulf States, were returning home, lured back by the prospect of new job opportunities in the expansion of their own countries' oil-based economies.

These changes increased markedly the pressure on the capital-poor Arab states to supply yet more manpower. Concerns operating in the capital-rich states offered rapidly rising real wages, and stepped up efforts to recruit labor directly in Cairo, Amman, and Khartoum. However, a relatively high proportion of the potential migrants in the Arab labor-exporting countries was already working abroad by 1975, particularly in Jordan (East Bank), the Sultanate of Oman and the Yemen (Table 5). In Syria, Egypt and the Sudan the number of migrants abroad, though forming a small proportion of their workforce, was also close to the potential number of workers who were prepared or able to migrate, and by 1976 the limits appeared to be reached. The rather limited extra number of workers drawn from the

Arab supplying states in 1975/76, despite high wages offered, fell well short of the burgeoning demands of the oil-rich states. As a result, the rapidly industrializing wealthy states had to turn elsewhere for additional supplies of labor.

The source of labor to which the capital-rich states turned was Asia, in particular the Indian sub-continent. Within the four Gulf States of Kuwait, Bahrain, Qatar and the United Arab Emirates a marked shift in the composition of the labor market was in train by 1975 (Table 6). The proportion of jobs occupied by expatriate Arabs was decreasing while the Asians' share of the workforce rose from a quarter to one half of the total, their number rising from 83,900 to 247,000. These Asians were mainly from India and Pakistan. There had been some influx of people from South Asia into the Persian Gulf area ever since the British had brought them in during World War II as part of the war effort; now their numbers began to multiply.

TABLE 6

WORKFORCES OF KUWAIT, BAHRAIN, QATAR AND THE UNITED ARAB EMIRATES, BY NATIONAL ORIGIN, 1970 AND 1975

	1970		1975	
	Number	per cent	Number	per cent
Non-National Arabs	165,934	51.0	226,350	41.7
Asians	83,869	25.8	247,720	45.7
Iranians, Europeans and Others	75,295	23.2	68,432	12.6
Total Foreign	325,098	100.0	542,502	100.0
Nationals	147,560	31.2 ⁽¹⁾	195,115	26.5 ⁽¹⁾
GRAND TOTAL	472,658	100.0	737,617	100.0

Note: (1) Percentage of all employment

The suppliers of Indian and Pakistani labor. The most obvious explanation of the role of Indians and Pakistanis in the economic development of the capital-rich states is the organization of their recruitment through a number of manpower-supplying agencies. These "agents" are private sector entrepreneurs from Asia. Their representatives living in the countries of employment identify employers' labor requirements, specifying skill levels, trades, and numbers

needed. They can supply these requirements quickly by having counterparts in India, Pakistan and Sri Lanka who have lists of would-be migrants according to qualifications and availability.

Thus, just at the time when Arab labor was becoming scarce, expensive and of less predictable quality at all skill levels, Indian and Pakistani labor of known skill and capability became available quickly and easily. The governments of the Indian subcontinent tacitly encouraged these labor recruitment agencies in the early period of their establishment. The advantages to their nations of supplying migrant labor were clear, and any deleterious aspects seemed unlikely to become significant in countries of such large populations and complex economies. In 1977 and 1978, however, both Indian and Pakistani governments intervened in response to reports of the human rights abuses suffered by employees recruited through labor agencies; in addition, some concerns have been expressed in Pakistan about shortages of certain types of labor. This constraint upon the supply of Indian and Pakistani labor added strength to the emerging East Asian connection.

The East Asian connection. The countries of East Asia--referred to here as the Orient, and including South Korea, Indonesia, Malaya, Nepal, the Philippines, Taiwan and Thailand--have since 1973 come to account for a rapidly increasing share of the Persian Gulf labor market. In 1970, very few migrants of Oriental origin worked in Kuwait, Bahrain, Qatar, the United Arab Emirates and Saudi Arabia; by 1975, however, they numbered some 15,000 workers. It is estimated that today (1979) there are some 160,000 workers from the Far East in these states.

The swing towards utilization of Oriental labor results from the coincidence of several policy aims of the governments of the capital-rich states. Disenchantment is growing in these states with the wider cultural and social implications of hosting large migrant populations. The indigenes of states like Saudi Arabia and the U.A.E. are becoming concerned at the possibility of being "swamped" by the immigrant communities. The psychological implications of, for example, Qatari nationals comprising so few of the total population of their own country are great. The feeling of vulnerability is enhanced by the immigrants' concentration in the more crucial sectors of the economy. Apart from fears of numerical domination, there is concern amongst Arab policy makers in the capital-rich states over the considerable cultural (and racial) impact which the large expatriate communities could have on the Arab indigenes and their customs. These fears are most obviously a political reality in Kuwait, where the differing rights of the various classes of "national" have become the subject of open debate. Although less overt in the other Gulf states, these considerations enter increasingly into decision

making, and are assuming significance in the shaping of future economic development. In addition, there are increasing economic costs of supporting growing expatriate communities. The establishment of more and more family groups amongst the immigrant communities is a major aspect of their growing political motivations and strength. As families develop, so household heads in immigrant communities become concerned to secure rights similar to those of the indigenes.

The growing disenchantment with the wider implications of being a major country of non-national employment appears to create for planners a conflict with their economic growth objectives. How, given the limits to utilization of indigenous human capital in the capital-rich states, can they continue their program of rapid expansion without their populations becoming totally outnumbered in their own country?

Enclave development in the capital-rich states. The compromise chosen by the rulers of the oil-exporting states has been to separate physically the new industrial areas on which future growth and development will be based from the existing urban areas. In this way, it is hoped, what are perceived as undesirable aspects of labor importing--the close and prolonged contact between indigenes and immigrants, and the cost of supporting expatriates--will be minimized. Examples of such "enclave" industrial areas are becoming numerous in the capital-rich countries of the Arab world: Shuaiba (Kuwait), Umm Said (Qatar), Jebel Ali (Dubai), Ruwais (Abu Dhabi), Yenbo and Jubail (Saudi Arabia) were all built on what amount to "desert" sites away from major centers of populations.

In order to limit housing and related costs and to facilitate the "containment" of the immigrant populations at these large industrial sites, there is a clear trend toward the recruitment of single, unaccompanied males to build and subsequently to run the new plants. This enables the industrial areas to be operated on a "work camp" basis, with a minimum of services provided for the all-male population. Social and infrastructural overheads are minimized, and the growth of the expatriate population is held down by requiring the migrant workers' families to remain at home in their country of origin. Such work camps, in which the men who operate these enclaves live, resemble the normal camps associated with the construction industry; however, these enclave camps are to be operated on a long term rather than just a temporary basis.

The countries providing the labor for this enclave form of development have been almost entirely Oriental. East Asian companies have taken on large scale contracts, and brought to the Near East workforces of all skill levels prepared to live and operate in these work camp conditions. The camps are built by the contractors them-

selves as part of the project, and governments can escape the responsibility of providing infrastructure for these immigrant workforces. One of the earliest major enclave contracts to set the pattern was the dry dock in Bahrain, where the Arab Shipbuilding and Repair Yard Company's facilities were built by South Koreans. The Koreans provided the entire labor force and expertise under a \$30 million contract. During construction the Korean workers, consisting only of single men or married men on single-status contracts, worked 12 hour shifts. They were entirely self-sufficient in housing, which they built themselves. Even food and recreational facilities were flown in from Korea. After completing the dock on time, the Koreans left Bahrain completely.

In their complete departure, the Koreans appeased one of the major fears of the governments of the countries of employment--the dallying of workers after completion of the contract for which they were brought in, so that more permanent communities of immigrants build up. The departure of the Koreans contrasted favorably, in the minds of the Bahrainis, with the aftermath of the earlier construction of the aluminum plant for ALBA, when large numbers of Pakistanis who had been employed to build the plant remained after its completion. The aluminum plant was not constructed as an enclave; its construction was integrated into the Bahraini economy, and the labor force into the Bahraini labor market. Many Pakistanis used this contract to establish their families in Bahrain, and they now consider themselves permanent residents. The growth of the Pakistani community in Manama is viewed as undesirable by Bahrainis, a factor behind the location of the Korean-built dry dock on an island site which facilitated the isolation of the dry dock workers from the rest of the Bahraini economy.

A similar policy of enclave containment of labor forces has been adopted for the industrial development of Jebel Ali, in Dubai, by siting the development away from Dubai city. The chief reason favoring enclave development is the sheer volume of labor required for Jebel Ali--estimated employment in 1985 is equivalent to the entire population of the Dubai emirate in 1977. This is typical of the future scale of labor demand in these enclave industrial areas. If this scale of demand for labor were to be met in the open market of the Emirates, it would be very disruptive, causing shortages in other parts of the economy. Arrivals of workers would be hard to monitor and control; illegal immigration would reach new levels. In short, the development of other facets of the Emirates' economy would be severely distorted if developments of the scale of Jebel Ali were not isolated from the labor market at large. Yet Shaykh Rashid is determined upon industrial expansion of this scale: enclave development, with the industrial complex and its workforce isolated from the wider economy of Dubai, is the only way that

industrialization of this scale can be effected without the harmful side effects.

It is the Oriental companies who are supplying the self-contained workforce with the size and combination of skills needed to construct the large scale plant and infrastructure of Jebel Ali. The Jebel Ali site will continue to be operated as an enclave after the completion of construction under long term contracts similar to that used for its construction phase. It may never be thought desirable to integrate the Jebel Ali complex into the wider economy of Dubai, or the Emirates as a whole. The Ruwais development in Abu Dhabi, less advanced at the present, will be built and operated on a similar basis. The Yenbo and Jubail enclaves in Saudi Arabia are also being built by Orientals with enclave-type contracts. Saudi Arabian trained manpower will not be available to operate these industrial areas, so Yenbo and Jubail will, for social reasons, continue as enclaves operated by Far Eastern personnel who will not integrate with the Saudi national population.

Orientals are not only employed as enclave labor forces; companies from East Asia have tendered successfully and are meeting deadlines on non-enclave contracts. The provision of infrastructure in Riyadh, for example, is being effected by Oriental firms, as are major hotel and office building contracts elsewhere in Saudi Arabia. In sum: the Oriental labor is more cost-effective than Arab labor; Oriental companies offer very attractive "enclave packages" of skills to the capital-rich countries; and the Orientals, by their preparedness to live in enclaves and return home when their contract ends, offer overriding social advantages for jobs in which knowledge of Arabic is not essential. These considerations indicate a probability of increased substitution of Oriental for Arab labor.

Impacts on the Labor-Supplying Countries

The impacts of an emigrant workforce vary considerably with the conditions in the different exporting countries. We will highlight some of these effects by citing examples from Egypt, Jordan, the Yemen and Sudan.

Egyptians working abroad. Egypt's role as a supplier of labor in the Arab world has become a tradition, an accepted part of Near Eastern economy and society. The 1967 census reports 1,425,000 persons as absent at the time of the enumeration. We believe, from examination of various data sources, that there were about 400,000 expatriate Egyptian workers in 1975, which would amount to 3.2 percent of the national workforce. The disposition of Egypt's 1975 labor force of 12.5 million includes 50.7 percent in the agricultural sector, and large numbers in the public sectors of the economy: 13.6 percent in

government, 9.4 percent in public sector enterprises, and 2.7 percent in the armed forces. The non-farm private sector employs only 7.4 percent. There were also 13.0 percent (over 1,600,000) unemployed in Egypt. In view of Egypt's tradition of exporting labor to other Arab countries, and with so much unemployment in the urban, non-agricultural sector, it is remarkable that more Egyptians were not working abroad in 1975.

Why has Egypt not exported larger numbers of workers? Moreover, why was there not a large expansion in the numbers of Egyptians migrating for employment after 1973 in view of the manifest opportunities in the capital-rich Arab states with their acute shortages of labor? Why has the incidence of unemployment in Cairo not acted as a stronger "push" factor? There is another facet to this apparent paradox. Despite the small proportion of emigrant workers, it is generally acknowledged that there are acute shortages of certain types of labor--in particular tradesmen and craftsmen--especially in Cairo, but also throughout Egypt. It is unlikely that either the slow rate of domestic expansion of the Egyptian economy or conscription into the armed forces (the number in the army is falling slowly) is producing these shortages of manpower. The conventional wisdom asserts that they are due to the migration abroad; but why should such small scale emigration relative to the total workforce bring about such shortages?

It is generally acknowledged that Egyptian manpower planners seek to export more labor--indeed, this presumption is built into Egypt's development plan. But Egypt's labor market appears highly compartmentalized, with very little occupational mobility. There seems to be extraordinary immobility between even relatively similar occupations, and those with low skill requirements. Thus the skills exported from Egypt are not readily replaced by nationals moving into vacancies created by the departures. For example, exports of Egypt's skilled, well-qualified craftsmen and tradesmen are substantial, but there is little movement of labor up the occupational scale as replacements. In particular, the construction industry has been demonstrated to be short of all types of labor.

Several factors can be put forward in explanation of this lack of occupational mobility. The first concerns lack of movement from the agricultural sector: the marginal products to labor in agriculture, though small, are positive; and severe discouragements to moving into Egyptian towns include the high social cost of living in overcrowded and underserviced slums. Another important segment of the workforce is in government service, and these public sector employees are essentially immobile. Although some government workers are seconded abroad, such as teachers and technicians, their number is relatively small. The secure income with annual increments that government employment provides means that a public sector employee maximizes long

term economic returns by remaining in the post. He or she is therefore neither a potential migrant, nor has occupational mobility within the domestic labor market. And since the Egyptian public sector accounts for 75 percent of non-agricultural employment, only 3,000,000 persons are either potential migrants for employment or likely to fill the vacancies left by those who have migrated.

Not only is this group surprisingly small in number, but many are of low educational attainment, frequently illiterate, and often lacking in employment experience or unemployed. However, only those with work experience or skills are demanded as migrants, and their number is very limited because of the small private sector in urban Egypt, due to government domination of the economy. The unemployed and inexperienced, the urban poor, find it difficult to migrate internationally, and these unqualified groups are also slow to move to levels of higher occupational status at home. In any case the cost of the travel documents, and the time needed to acquire these in Cairo can be an impossible sacrifice to the unqualified poor. Hence, in Cairo there are large numbers of urban poor, caught in a poverty trap--unable to find work at home and too poor to finance their migration abroad.

It is doubtful that planners in Egypt are wise in projecting many extra departures of migrant workers as a remedy for anticipated unemployment--at least this is true of spontaneous departures. If the government wants to export larger numbers of workers, it must take a series of active steps to encourage this. First, since larger numbers of Egyptians are not spontaneously demanded in the capital-rich Arab states, efforts must be made to explore, evaluate and cultivate a market for Egyptian labor abroad. Secondly, the government must train and make available for migration larger numbers of workers with the attributes demanded in the most rapidly growing capital-rich states. Having done this, the institutional constraints to the departure of the migrants for employment must be minimized.

The Egyptians are in direct competition with Asian workers for openings in the large construction projects where many of the jobs are to be found. The latter are preferred by many employers in the capital-rich states, who claim that Egyptians (and to some extent, Arabs as a whole): demand higher wages, but are not more productive than Asians; require better living conditions than do Asians; want to bring their families, while Asians are more prepared to leave their families at home; tend to haggle over wages and conditions which were previously agreed, in contrast to the Asians who dispute their agreements less; and are more apt to invoke labor laws against their employers than are the Asians. Before Egyptian labor exports can be expanded significantly, this problem must be overcome, both by increases in the productivity of Egyptian labor to cover its higher cost, and by public relations work to raise the status of the

Egyptians in the eyes of the large scale employers. At clerical positions and senior managerial levels in the large contracting companies, Egyptians do find some employment, particularly when a facility in Arabic is an essential qualification for the post. Typically, however, it is Levantine Arabs who hold these positions rather than Egyptians: Jordanians, Palestinians, Syrians and Lebanese tend to be retained by the big firms, and move from country to country with their operations.

There are two more factors militating against increases in opportunities with the large contracting firms. The first is the approaching downturn in the construction phases of the development of the capital-rich states, which means that there will be an overall reduction in the number of unskilled migrant construction workers in the Arab world. Secondly, the available large scale construction tenders are increasingly going to companies who undertake projects on an enclave basis, providing the whole labor force with a variety of skills, and with the expertise developed from experience. Egypt is not a base from which many large multinational companies operate, and it is difficult to create them, either in the private sector or as mixed private-public enterprises. Many of these points also apply to employment in the smaller industrial companies.

It is in government employment, and in positions with service sector companies, that Egyptian personnel with language facility, administrative and clerical skills have greatest advantages over alternative sources of labor. In the supply of medical personnel and teachers to the Arab world, for example, Egypt has been markedly successful, though not in a monopoly position. The demand for manpower in these categories will doubtless increase. It will not grow rapidly, however.

In conclusion, it is possible for Egypt to enlarge her role as an exporter of manpower but it will take effort, investment and some marketing flair. Greatly increased numbers of Egyptians will not migrate spontaneously. Indeed, in view of the contraction in the levels of construction phases of the development plans of the oil-exporting states as their economic development moves to subsequent phases, it is likely that there will be some net return of Egyptians as the unskilled and semi-skilled construction workers return home, having lost their jobs abroad. It might therefore be considered even more essential to train rapidly and export tradesmen and technicians (albeit of low quality) in order to make up for the return of the unskilled migrants to Egypt. In only one facet of the spontaneous exporting of unskilled labor does there appear to be potential for significant expansion. This is in the supply of replacement labor to countries such as Jordan which export their labor to the capital-rich exporters.

The Hashemite Kingdom of Jordan. Out of an estimated population of 2.6 million Jordanians in 1975, some 532,8000 were economically active. About a quarter of this population lived abroad in 1975: 150,000 as workers, 663,7000 persons in all. The modern sector non-farm civilian workforce, from which most Jordanian migrant workers originate, comprised 324,000 persons in 1975. Expressed as a proportion of this pool of labor, the Jordanian migrant workers constituted 46 percent. That labor shortages should have arisen as a result of Jordanians working abroad is therefore hardly surprising. (The remaining labor categories were: agriculture 73,000, government and military 127,000, unemployed 8,000.)

The large majority of Jordanians working abroad are employed in Saudi Arabia (66 percent) and a further 18 percent in Kuwait. The remainder work in other capital-rich states of the Middle East.

One of the disadvantages to capital-poor states of sending large numbers of workers abroad is that their workforces may be depleted to the point where skill shortages constrain economic development. The likelihood of this latter event is diminished when there is a high degree of occupational mobility in the domestic labor market--the capacity of the market to replace those more skilled with those less skilled at any given level. The Egyptian labor market appears extremely rigid; in Jordan, however, a high degree of occupational mobility has diminished this deleterious impact of international migration, although it is far from being eliminated.

Within the Arab Near East, Jordanians are possibly the best educated nationals. They are also highly mobile geographically. Given the selective nature of migration, which first extracts from a market the most able, Jordan has suffered from a "brain drain". It is difficult to evaluate comprehensively the cost or benefit to Jordan, but superficially it does seem that the country invests resources over many years to train its people only to lose them to more wealthy neighbors just as individuals reach their prime working age. Table 7 shows the educational qualifications of the Jordanians reported in a Multipurpose Household Survey (MPHS) as abroad in 1975, and of the domestic Jordanian population enumerated in 1976. Clearly the community abroad is very much better educated than those left at home.

However, against this should be set three countervailing arguments. The first is that unemployment has been a long term problem for Jordan, which probably has only temporarily diminished. The University of Irbid will create a growing volume of graduates, and it is unlikely that jobs will be available for them all in Jordan. Secondly, much of all Jordanian educational expenditure is paid for privately. More than any other country in the Near East, Jordanians travel abroad to universities in Europe and America, paying their

TABLE 7

JORDAN: THE DISTRIBUTION OF EDUCATIONAL LEVEL OF
 (A) THOSE RECORDED AS ABROAD IN 1975 M.P.H.S., AND
 (B) THE SAMPLE (TOTAL) OF THE 1976 M.P.H.S.

Educational Level	Those Abroad in ¹ M.P.H.S. 1975 (%)	Sample Population ² M.P.H.S. 1976 (%)
Less than elementary	8.4	61.4
Less than preparatory	15.2	22.4
Less than secondary	7.2	7.8
With secondary certificate	55.9	5.1
Post secondary diploma	3.8	1.0
Degree	9.7	2.3
Total	100.0	100.0

Note: (1) Relates to sub-sample of 3,436 persons drawn from total of 17,373.

(2) Sample covered 58,183 persons.

Source: (1) Department of Statistics, The Multipurpose Household Survey (Jordanians Abroad) 1975, Hashemite Kingdom of Jordan.

(2) Department of Statistics, The Multipurpose Household Survey 1976, Hashemite Kingdom of Jordan.

own costs. Moreover, they often avail themselves of free education in countries such as Kuwait, the U.A.E., Qatar and Saudi Arabia, often at university level. Thus Jordan's highly qualified manpower has often been produced without government support. Thirdly, to be set against costs incurred by the brain drain are the continuing substantial sums that Jordan receives in aid from Arab countries. These must be seen as offsets to the economic loss Jordan suffers from the brain drain.

A brain drain of Jordanians will continue, irrespective of government wishes. The government cannot compete generally with oil-rich states in terms of wages. However, Jordan can define the critical occupations wherein she lacks manpower, and provide monetary and non-monetary incentives to induce return or residence for people in these professions. This the government is already doing. As

soon as the market appears to change from labor shortage to surplus, she should terminate these arrangements.

Agricultural output has fluctuated widely in the past five years, and the explanation generally offered has been varied rainfall. We would suggest, however, that international emigration of workers is a contributory factor to declining agricultural output, although this would justify more research than is possible here. The number of Egyptian laborers working on the land in Jordan is an indication that the departure of Jordanian farm workers for the towns and abroad has been sufficient to affect agricultural output. The government should aim to maintain the stock of capital in the agricultural sector and to hold output more or less constant in the short term in the interests of an uncertain future. In the absence of Jordanian agricultural workers, replacement migrants from Egypt, Syria, and Pakistan should be permitted, but they should be strictly temporary; their duration of residence should be determined by the time when Jordanian agricultural workers return from abroad. The government must ensure that a temporary dependence on replacement migrants does not lead to a permanent one, associated with large numbers of unemployed Jordanian farm workers in towns, as it would probably be.

The remittances which Jordanians working abroad send to Jordan have risen rapidly since 1973. The number of Jordanians working abroad in the oil-rich states increased considerably, perhaps doubling between 1970 and 1975. Secondly, a high proportion of the new migrant workers were unskilled or semi-skilled manual workers; unlike their more educated predecessors they lived without their families and remitted or saved a higher proportion of their earnings. The residence of the new wave of migrant workers abroad is more likely to be temporary, lasting one or two years; and this group consists largely of "target" migrants, who aim to save a defined sum and then return home. Many of these migrants probably work in the construction sector; if so, then they will return home as the construction boom (of Saudi Arabia in particular) dies down. Remittances also rose because wage rates in the peninsula increased.

By this reckoning, remittances will fall for three reasons. First, these short term migrants will return; despite their low skill level they have earned very high wages and remit large proportions of what they earn. Secondly, the wage rates of skilled and unskilled manual workers are now falling in the peninsula; with the level of inflation common to most peninsula states, real wages are falling quite rapidly. Thirdly, the more skilled and educated Jordanians living abroad with their families will continue to "settle". Family size will increase, sex ratios will fall, dependency ratios will increase. As time passes, the remittances of this group will decline as family commitments abroad increase, and as the links between Jordanian communities abroad and Jordan are

diminishing. By now almost half of all Jordanians and Palestinians in Kuwait were born there; many have never left Kuwait. For all practical purposes they have left Jordan permanently. Even if they wished to return they would find it difficult to maintain their present standard of living, to find accommodation comparable to their present housing or even to what they enjoyed in Jordan ten or fifteen years ago.

A decline in remittances can have a considerable impact: they accounted for 11 percent of imports and 5.5 percent of GNP in 1973, and rose to 31.2 percent and 32.4 percent respectively by 1976. If the flow of remittances returns to the previous lower levels, then national income will fall dramatically and Jordan will have a severe balance of payments deficit.

Planning economic development in Jordan, or any such small economy in the Middle East, is an extremely difficult task. Jordan, dwarfed by the giants of the Near East--Saudi Arabia, Kuwait, and Libya--and small in comparison with even her poorer counterparts--Sudan, Egypt and North Yemen--is particularly vulnerable to external developments. The rapid departure of a sizeable slice of her domestic labor force after 1973 for Saudi Arabia, the sudden entry of Lebanese refugees, the dramatic growth in remittances, and the high rates of domestic inflation all render the task of planning for the future in Jordan especially difficult.

Jordan has three types of problem: (1) how to survive in the short term as labor shortages hamper development; (2) how to cope with the imminent return of erstwhile migrants; (3) how to cope with a continuing "brain drain" problem. The arrival of "replacement" migrant workers from Egypt and Pakistan has served to ameliorate problem (1); but as yet little has changed in the field of domestic employment growth to suggest that it will be easy to re-absorb the returning short-term migrants. Typically they are unskilled or semi-skilled, and the likelihood of their return is considerable. Whether they want to return or not the work is due to decrease, and they occupy jobs which nationals from the Far East are increasingly entering.

The re-absorption of these migrants raises a series of potential problems for Jordanian planners. For example, will the domestic labor market prove to be as flexible when job opportunities are declining as it was when they were growing? Will there be a permanent growth of urban population to the detriment of agricultural output? Will returning migrants have acquired tastes and ambitions which make it impossible for them to return to the jobs in which they worked before leaving? Just as Jordan is attempting to cope with labor surpluses a major source of foreign exchange, remittances, will be drying up. And if peace comes to the region, the motivation

of capital-rich states to support the Jordanian economy could wane. Thus the government's resources for coping with a growing number of unemployed would be in rapid decline. Jordan is essentially a passive participant in the Near East labor market. The imminent return of many of the migrants will create a new set of policy requirements, and plans should be geared to surpluses rather than shortages of labor.

The Yemen Arab Republic (YAR). The Yemen Arab Republic is located in the southwest of the Arabian peninsula, north of the People's Democratic Republic of Yemen. The terrain is largely rugged and mountainous. Internal communications are consequently difficult and, until recently, very limited. The first census of the country, taken in 1975, enumerated about 4,700,000 inhabitants. The country is generally acknowledged as poor: by World Bank standards, it is one of the 25 least developed countries in the world, with a 1976 per capita income of \$250. Most of the population gain a living from traditional means, mainly agriculture, while the modern sector is very small and employs perhaps 6 percent of the workforce. As a result of poverty and, by peninsula standards, a relatively large population, the YAR has been for some years, and continues to be, a major supplier of labor to Saudi Arabia and the other Gulf states. Some 330,000 persons were recorded as being temporarily abroad at the time of the census, of whom 290,000 are thought to be workers. (There are also permanent emigrants, not considered in this report.)

Migration abroad for employment is pervasive in the YAR; in 1975 it absorbed as many as a third of all male workers. Most adult males migrate at least once, and many repeatedly. Remittances are a major source of foreign exchange, and amounted to \$203 per inhabitant in mid-1976. The impact of migration for employment upon the domestic economy of the YAR is clearly considerable; a large scale return of Yemeni migrants would have a profound impact on the economy.

Migrants are typically young men from rural areas, and, in the majority of cases, married. Given the general absence of education or training facilities and the paucity of modern sector employment opportunities in the YAR, any concern over a "brain drain" is misplaced. The tradition of migration for employment is towards Saudi Arabia, and employment is in unskilled and semi-skilled occupations, mainly in the construction sector. There is no parallel with Jordan which sends out many professional and skilled workers, nor with those Mediterranean countries which export labor to northern Europe for skilled factory work. In such cases, where middle and higher level manpower migrates for employment, even a limited loss can create serious manpower bottlenecks to production.

A more serious question is the impact of migration on agriculture. Field survey work has not yet been carried out in Yemen to provide answers to this question. Assessment is made difficult by a lack of agricultural statistics, and varied annual amounts of cultivated area due to vagaries of rainfall. However, there is growing informal evidence that agricultural production has been compromised by the sudden departure of migrant labor. Ross details the collapse of a tomato farm in 1977 in the Tihama following the departure of 200 laborers. Pratt mentions the collapse of terraces caused by the absence of masons, a phenomenon evident to even a casual observer.

As a result of pervasive outmigration of rural labor, agricultural wage rates have risen to the point where Pakistani labor is used on some development projects. As labor has grown scarce there is a tendency for less labor-intensive techniques to be sought. The mechanization of agriculture, encouraged by the advent of quite large cash balances from remittances, has proceeded with mixed success. The introduction of tractors has not been satisfactory, as the typical terrace is too small for the tractor, and the furrow it plows too deep. Water pumps have proliferated on the Tihama, where so much water has been extracted and the water table has fallen so rapidly that doubts now exist over the future of water supplies in that area. A more profound change in Yemeni agriculture has followed from the relative scarcity of labor: a change of product to less labor-intensive crops. In particular, coffee and cotton, relatively labor-intensive crops, have in recent years been displaced by the qat tree, a trend reinforced by the relative price movements for qat and coffee. This transfer is serious, since coffee is an export and a foreign exchange earner.

In Oman, the process of migration has had a pronounced and long term detrimental impact on agriculture, but this is less clear in the Yemen. Agricultural output has fluctuated in cereals production, but expanded in vegetables and other cash crops. The evidence is insufficient for unambiguous judgment. But there are signs of a decline in rural infrastructure, and since 70 percent of the population live and work in agriculture such a trend would have considerable significance.

The remittances of Yemeni migrant workers have become increasingly important to the domestic economy. They have nearly always covered a large adverse balance of trade, and both imports and private transfers have been multiplying without much gain in exports. Some rough estimates indicate that remittances have risen from 17 percent of GNP in 1973 to 46 percent in 1976. By mid-1977, remittances were flowing to the YAR at the rate of one and a third billion dollars a year, a sum greater than the GNP of the YAR for 1975. How much of the rising imports were accounted for by machinery and goods related to investment is uncertain. In microeconomic terms, migrants tend to use their

TABLE 8

YEMEN ARAB REPUBLIC: BALANCE OF TRADE AND PRIVATE
TRANSFERS (in millions of YR)

	1972/73	1976/77
Exports	25.3	89.9
Imports	410.7	3,283.8
Balance of Trade	-385.4	-3,199.9
Private Transfers	563.6	4,501.2

Source: Central Bank of Yemen.

remittances in ways that suit their personal needs or desires. Often they are spent attempting to create a job opportunity, for example, opening a shop or buying a taxi. McClelland reports that "typical investments are houses, buying a bride, cars for taxis, trucks, land, tractors, irrigation pumps." The appropriateness of some of these investments may be questioned. While the individual migrant and his family enjoy an enhanced level of consumption, the long term value to the community of the sudden increase in disposable incomes is more dubious. The most obvious effect of remittances in rural areas is inflated land, house and bride prices; the cost of living index rose 160 percent from 1972 to 1976 in Sana'a (the capital).

There are presently signs that remittances have peaked, and will soon fall quite rapidly. Yemeni labor is now in less demand than in the days of frenetic development of 1976 and 1977, and wage rates have generally fallen back from their very high levels of those years.

The Yemen has little control over the outmigration of her people; at present she is a typically passive participant in the migration system of the Near East. In domestic terms the government can act in the fields of: (a) remittances, to create a remittance utilization policy; and (b) agriculture, monitoring and ameliorating long term detrimental aspects of outmigration. In international terms the government should negotiate with countries of employment to get them to provide training programs for Yemeni workers in skills useful to both countries.

Sudanese efforts to utilize remittances. It is instructive to look at the Sudanese efforts to harness remittances. Sudan is an example, par excellence, of a country whose development has been held back by continuing balance of payments problems and a critical shortage of foreign exchange and hard currencies. The Sudanese therefore saw the rising tide of remittances as a means of ameliorating one of the most intractable problems stunting their economic progress.

Remittances have risen faster than numbers of workers abroad. The Bank of the Sudan calculated that remittances were less than \$1 million in 1975/76, but had risen to \$10 million for the year 1976/77. The total for the coming year is predicted to reach \$300 million. For a country with perpetual balance of payments problems, this could be seen as a very healthy trend, a potentially valuable contribution to the economy if it were not allowed merely to fuel inflation and random consumption.

The Government of the Sudan has instigated a number of schemes to encourage the remittance of hard currencies by expatriates through the banks. One is known as the "Land for Emigrants Scheme". It provides a quick and easy exchange of foreign-earned hard currency for first and second class housing units in Khartoum. As well as drawing in additional foreign currency to the economy, the scheme provides a useful psychological link with their homeland for Sudanese working abroad. One of the important "push factors" behind the migration of skilled labor has been the shortage and cost of urban housing in the Sudan. However, these remittances have been a major factor behind price increases in housing (in certain parts of Khartoum they are twenty times the prices of the 1960s), which then aggravate one of the very problems leading to emigration in the first place. Still, the effect on house construction should be valuable in the longer run.

Another significant Sudanese government scheme is the "Nil Value Customs Policy". A Sudanese national can obtain customs relief on imports equivalent to the value of a foreign currency account held in the Sudan Bank provided the currency is remitted from outside, and remains in the account six months. After the customs relief has been gained, then up to 75 percent of the hard currency account can be retransferred out. While in the account, funds receive interest as a further incentive.

Thus the Sudanese government sacrifices customs revenue, but eases the balance of payments by encouraging purchases of imported goods with hard currency earned outside the Sudan. At the same time the government keeps back, in hard currency, 25 percent of the value of the customs-free purchases to be exchanged at official market rates within the Sudan. A major incidental benefit is the discouragement of black market currency dealing. Moreover, while the monies are vested in the Bank of Sudan, the government can use the hard currency to expand normal banking activities for development. The Sudan is making very effective short-term use of the flow of funds. Other countries could learn much from the Sudan's initiatives.

[Extracted from Aspects of International Labour Migration in the Arab Near East: Implications for USAID Policy, a report prepared for the U.S. Agency for International Development, May, 1979.]

Note: Much of the material used in this report originated in a comprehensive series of reports prepared by the authors for the International Labor Office.

Migration to the United States: The View From Rural Mexican Communities

Wayne A. Cornelius

[Migrants going to work in the United States from rural communities in Mexico are predominantly temporary migrants who leave their families at home, and return to them after some months of earning and saving (or remitting). Many make repeated seasonal visits of this kind.]

The data for this paper were drawn from in-depth, unstructured interviews with some 80 residents representing 2,960 households living in nine rural communities of the State of Jalisco, west of Mexico City. The interviews were conducted with migrants recently returned from the United States, with wives of other migrants working in the U.S. at the time, and with local community leaders, merchants, priests, doctors, and teachers. The communities were selected to maximize the variation among them in the kinds of government programs from which they have benefited, the kinds of land tenure systems which predominate in them, and rates of out-migration during the past 35 years. The Los Altos region of Jalisco State was selected for the project because of the heavy out-migration it has experienced since the early years of this century, and because of its proximity to several major Mexican cities which might serve as alternative destinations for migrants from the region. The Los Altos region suffers from most of the economic and social conditions which have promoted out-migration from rural areas in Mexico generally: a very high rate of natural population increase, high unemployment and underemployment, low wage scales, lack of new land for cultivation, highly variable rainfall and temperature conditions, poor and constantly

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eroding soil. The original focus of the project was on internal migration, but we soon discovered that at least 40 percent of the out-migration from the communities under study was movement to the U.S. rather than to other localities in Mexico. We estimate that about 70 percent of this movement to the United States is of an illegal nature, that is, by people lacking a visa or other legal entry permit.

Who Migrates?

U.S.-bound migrants from the communities under study are overwhelmingly male. A few unmarried young women go, usually as part of a family group. Most of the male migrants are in the 17-to-45 year age group--17 to 29 years seems to be the prime age group; but among our interviewees there were also individuals who made their first trip at the age of 12 or 14, as well as a 68-year old man who continues to spend several months each year working in the fields of California. The vast majority are single when they migrate to the U.S. for the first time. Married men usually do not take their wives and children with them, primarily because of the high cost of maintaining them in the U.S.; they can save more money, and faster, by leaving the family behind.

Most of the migrants have had at least some formal education, but have not progressed beyond three or four years of primary school. Landless agricultural workers (peones) and sharecroppers (medieros) are by far the most migration-prone groups in the communities under study. They are followed by ejidatarios, recipients of community land under the agrarian reform, many of whose plots are too small or of too poor quality to provide an adequate family income. Within ejido communities, the landless sons of ejidatarios are the most migration-prone group. Small private landholders and small merchants or artisans are the least likely to migrate.

Those who migrate legally to the U.S., however, are usually middle-aged men with above-average family incomes, with long histories of employment in the U.S. They can afford the expense involved in obtaining legal entry papers, and they have had time to develop close relationships with U.S. employers who can assist them in legalizing their status, or relatives who hold U.S. citizenship and who can also assist them in obtaining papers. Those who migrate illegally are among the poor of the community; but those at the very bottom of the local income distribution are not likely to migrate to the States because they lack even the money for the cost of transportation.

Migratory Patterns

Some residents of the research communities migrate to the U.S. only when there is severe economic necessity caused by a drought, a

crop failure due to premature frosts, or some other temporary condition which severely reduces the family income. They are "target" migrants, seeking only to earn enough to maintain their family until the next harvest, to pay off a debt, to purchase or replace a bullock needed to cultivate their land, and so forth. Others, however, should really be considered "professional" migrant workers: they spend at least six months every year at work in the United States until they are too old to go, or until they have improved their economic situation enough, or until their children have become self-supporting so that the parents can maintain an adequate living standard without seasonal U.S. employment. In these cases migration to the U.S. becomes an accepted, inevitable feature of family life; wives and children simply resign themselves to the temporary absence of the family head. When the men return from the U.S., they spend their time tending livestock or local business interests (if they have them), working at odd jobs, fixing up their houses, or just "vacationing" with their families.

Although the majority of those whom I have termed "professional" migrants have obtained legal entry papers, the overwhelming majority of these men have a history of at least one illegal entry into the U.S. Nearly all of the older men also spent at least one period legally in the U.S. as a contracted laborer, under the so-called "bracero" agreements between the U.S. and Mexican governments during the 1940s and later from 1950 to 1964. A few of the middle-aged men who now oscillate back and forth between the U.S. and Mexico were born in the U.S. to parents working there during the wave of emigration in the 1920s, then were brought back to Mexico as children during the Depression, or repatriation period; later they began returning seasonally to the U.S. in the mid-1950s (legally, of course, with their U.S. citizenship by birth). In these and many other families, several generations have participated in migratory movement; fathers and sons may now work in the States simultaneously.

The bulk of migration to the U.S. from the communities under study is of a temporary rather than permanent character. The average length of stay in the U.S. seems to be about six to eight months, with most of the migrants leaving in March and returning in early December. The longest period of continuous employment in the U.S. among our interviewees was nine years; for most of the "long-stayers", only two or three consecutive years seems to be the norm.

Motives for Migration

Why do they go? Except for the "professional" migrants who have more or less "made it" economically, the decision to go to the U.S., at least initially, seems to be prompted in most cases by sheer economic necessity, rather than a desire to accumulate capital. The

flow seems to be very sensitive, over time, to fluctuations in rainfall. In those communities almost totally dependent on agriculture, severe drought or rains which arrive too late for the crop-raising cycle seem to produce massive emigration to the U.S. Even in years of good weather, however, poor soil, erosion, low wages for landless workers, and other adverse conditions combine to produce continuing high rates of migration.

An excess of population, relative to the amount of cultivable land and the non-agricultural employment opportunities, seems to be one of the most basic factors leading to out-migration from the communities studied. The average completed family in these communities has about eight children. Mortality rates have fallen sharply since 1940, due to improved health care and sanitation, while fertility rates remain quite high. It must be emphasized, however, that even if population growth were somehow to be brought into equilibrium with employment opportunities in communities such as this, emigration to the U.S. would undoubtedly continue as long as the wage differential for unskilled or low-skilled jobs between the U.S. and rural Mexico remains as large as it is today. The bulk of the population in the communities under study is landless; and wages for landless workers in these communities average between 25 and 30 pesos per day (or \$2 to \$2.80 per day). By contrast, those who have worked recently in agricultural jobs in the United States report receiving between \$2.50 and \$3.00 per hour, and those who held factory jobs received \$4 to \$5 per hour. Some of them hold two jobs simultaneously while they are in the U.S., working 16-hour days and earning \$60 to \$65 per day. [Note: Values as of 1975.] The rule of thumb is that residents of these Mexican communities can earn and save more in one to three months of work in the U.S. than they could in an entire year of labor in their home community.

For most residents of the communities under study the decision to go to the U.S. is an eminently rational one in terms of differential economic returns to one's labor, as well as the high probability of finding a job in the U.S. While some of those who migrate may feel that they are being exploited by U.S. employers as a source of cheap labor, they are just as likely to feel that by emigrating they are escaping even more exploitation by the local employers in their community, who pay lower wages for even longer hours of work. For many peasants, migration to the U.S. is also highly rational in terms of reducing economic risk, even if one must enter illegally. The peasant often estimates that the risk of not finding a job, or of being caught and deported by the U.S. Immigration and Naturalization Service (INS), is substantially less than the risk of having inadequate income if he stayed in his home community due to the uncertainties of rainfall and temperature, fluctuations in the market prices

for what he produces, the frequent unavailability of fertilizer and other necessary inputs to agricultural production, and many other factors.

While economic rationality helps to explain a great deal of the movement to the U.S., there are clearly other factors which contribute to the high volume of emigration from some communities, and in certain age groups. For example, unmarried young men may migrate partly to temporarily escape parental authority, or to demonstrate their masculine "machismo," or to save enough to be able to marry and form their own home. Local community tradition or values are also important: in several of the communities under study, a structure of attitudes and behavioral norms has developed which strongly supports migration to the U.S., and it is an accepted feature of community life. There is little or no social stigma attached to illegal migration to the States; if one is caught and deported by the INS, it is viewed simply as "bad luck," while one who successfully evades the INS for multiple sojourns increases his status among his peers.

Where do Migrants Go, and Why?

The most favored U.S. destinations for those migrating from the communities studied are southern California, the Chicago area, and the state of Texas. Texas is less desirable than California for those who seek agricultural jobs because the wages are lower. Those with papers and more economic resources to cover transportation costs tend to seek better-paying jobs in the industrial, construction, or service sectors of northern cities like Chicago and Detroit. For those migrating illegally and without enough money to support themselves during a prolonged period of job seeking, California offers the best possibilities because seasonal agricultural jobs are plentiful there and are less time-consuming to obtain. The poorest migrants without papers tend to prefer jobs located in small towns or rural areas, because of the lower living costs there. This pattern is illustrated by data on place of residence in the U.S. of 285 migrants from one of the nine communities included in our study: these migrants were working in 110 different U.S. localities dispersed through 19 states as of July 1975, and most of these localities are outside major metropolitan areas.

We asked our informants in these communities why they chose to migrate to the United States instead of Mexico City, Guadalajara, Leon, or some other major city within Mexico. The responses were quite consistent: Lower wage scales and greater difficulty in finding work make Mexican cities less attractive as destinations. Of course, the migrant must invest more in getting to a place of employment in the U.S., and must run the risk of arrest and deportation

if he goes without papers; but he stands to gain much more. It was often pointed out by our informants that those who migrate to Mexico City or Guadalajara may live a little better than in their home community, but they do not progress very far; and many of our informants complained that the big cities in Mexico are undesirable places in which to live--they have far too many people, too many cars, too much noise, too much pollution, and the pace of life there is too frantic. In the U.S., superior living conditions (for rural tastes) can be had in a small town. A small proportion of the men in these communities have migrated temporarily to other rural areas of Mexico to work in crop harvesting, but these jobs pay too little to be an attractive alternative to seasonal labor in the United States.

Entry into the United States

How do they get there? For most residents of the communities under study, raising the money needed to finance a trip to the U.S. is not a major problem. They may sell off a few cattle or borrow the cash from relatives or a local moneylender. Those who must go illegally may purchase falsified birth certificates or legal entry credentials for about 500 pesos (\$40), and there is heavy traffic in such documents. Some go to the trouble and expense of obtaining tourist visas, then overstay their visas in order to work in the States. Most migrants travel to the border by bus, the more affluent go by plane. Once at the border, those lacking papers may ford the Rio Grande River in Texas or vault the wire fences along the border in California.

The majority of those who enter the U.S. illegally make use of coyotes, the professional smugglers of migrant workers. Coyotes are easily found in bars or on the streets of Mexican border cities, or in certain "staging" communities located well inside Mexico. The coyote instructs the prospective migrant where to attempt his border crossing and at what hour; the illegal crosses on foot and is met by the coyote on the U.S. side. The coyote then transports him in his car or truck to whatever destination the migrant chooses. The going rate for these services (as of 1975) is about \$250 to most destinations in California, and about \$400 to northern cities such as Chicago. Some coyotes offer a "package deal" including assistance in crossing the border, transportation to the place of employment, a falsified birth certificate and social security card, usually for 3,000-4,000 pesos (\$240-\$320). The coyote may send word to the migrant's home community that a certain number of workers is being sought by a certain U.S. employer, or he may even personally visit the community to recruit workers. The illegals whom we interviewed said that crossing the border and evading the INS en route to a place of potential employment in the U.S. is easier than finding a

job. If he is caught by the INS far from the border after a period of employment in the U.S., the illegal migrant will usually return to his home community in Mexico. If, like the majority of those apprehended by the INS, he is caught soon after crossing the border, the migrant will usually attempt a new illegal entry within a day or so and in most cases this second attempt will be successful.

Migrant Participation in the U.S. Labor Market

At least 60 percent of the migrants from our research communities are usually employed in the U.S. as agricultural laborers, harvesting lettuce, tomatoes, melons, oranges, and many other kind of fruit. Others have been employed in factories which process farm products--tomato canneries, onion-packing plants, and so forth. The range of other jobs held by the migrants we interviewed is quite broad: nurseries selling ornamental plants, construction firms, railroads, foundries, shipyards, cement companies, furniture factories, rubber factories, paper factories, copper mines, restaurants, hotels and motels, car washes, butcher shops, and even an employment agency. Most men with a long history of migration to the U.S., and those who migrate legally, are far more likely to find non-agricultural jobs than the majority of illegals.

Those who are migrating for the first time, whether legally or not, are likely to start in the agricultural sector, and many appear to do so as a matter of preference rather than necessity. Field jobs are easier to find than other types, and starting wages for menial unskilled jobs in industry are often so low that a migrant may be able to earn money faster in the fields, especially if he is paid on a piece-work basis (for example, by the number of cartons or packing crates he fills each day). Of course, this type of seasonal employment is also much less durable than most jobs in the industrial or service sector, and the risk of detection by the INS is also higher in field work.

Most of the concern expressed about the influx of illegal migrants from Mexico by U.S. labor union leaders, government officials, and some leaders of the Mexican-American community of permanent residents stems from the alleged impact of the illegals on the U.S. labor market. It is argued that illegals tend to be concentrated in the low-wage, low-skill sectors of the labor market where they compete with disadvantaged native Americans. Our interviews with several residents of the research communities who had held supervisory jobs in the U.S. suggest that U.S. employers do prefer to hire illegals to fill certain kinds of less desirable jobs, particularly in the agricultural sector. The illegal is viewed as attractive because of his productivity, dependability, and willingness to accept dirty, physi-

cally punishing tasks, low wages, poor working conditions, and low job security. According to our informants, these same job characteristics make the jobs unattractive to native Americans, particularly of the younger generation. The supervisory workers whom we interviewed argued that many of the very low-skilled, low-wage agricultural jobs now usually held by Mexican illegals would be eliminated by employers through mechanization if the supply of illegal migrant labor were to be cut off. Raising and enforcing higher minimum wage levels and improving working conditions for these jobs, to the degree necessary to attract native American workers, would probably have the same effect. The evidence from our study does suggest, however, that Mexican migrants--both legal and illegal--compete directly with native Americans for certain types of non-agricultural jobs, particularly in factories and in the construction industry; but the degree of competition seems to vary considerably among job categories. Mexican migrants with low skill levels, limited education, and their lack of facility with the English language are severely handicapped in competition with native Americans. Thus, the effects of job competition seem far more specialized than most critics of Mexican migration to the U.S. have recognized.

Impact of Migration to the U.S. on Migrants' Communities of Origin

What do Mexican migrants send or bring back to their home community, and what impact does it have on community life? In most of the communities under study, cash remittances from migrants working in the U.S. to their families in the communities are tremendously important, both to the household economy and to that of the community generally. The migrants or their wives whom we interviewed reported that they send home, on a regular basis, from \$100 to \$300 per month (the average was slightly over \$200). The funds are sent by mail, usually in the form of checks or money orders, which may be cashed in local stores or in banks in nearby towns. We also collected a sample of remittance data from the records of one of Mexico's largest banks, the Banco Nacional de Mexico, which handles approximately 24 percent of all banking transactions in Mexico. The average amount of money orders remitted from the U.S. according to the Bank's records for one particular day was \$95.53. Since most of the migrants whom we interviewed reported that they remitted funds to their families at least twice per month, the monthly average suggested by the national-level data corresponds quite closely with the \$200 per month remittances reported by our informants. The amount that migrants have been able to remit seems to have declined in recent years, due to inflated living costs in the U.S., but even so the remittances are of crucial importance to the maintenance of the migrants' families in their home communities. (It is interesting that the beneficiaries of remittances processed by the Banco Nacional were located not only in "high poverty"

Mexican states such as Zacatecas and Michoacan, but in Mexico City as well. This raises the possibility that temporary migration to the U.S. does not necessarily cease once peasants have moved to Mexico City.)

Apart from money remitted periodically by migrants while they are working in the U.S., most migrants are able to save and bring back with them sums ranging from \$50 up to \$4,000. The average lump sum with which migrants from the research communities returned was between \$250 and \$350. Young, single migrants seem to remit or save substantially less than older men; and a minority of all ages tends to spend most of their earnings on consumer goods such as clothing, stereo sets, and cars, as well as on alcohol and gambling. The majority, however, manage to make at least some kind of investment in producer goods or real estate once they have returned. Perhaps the most frequent investment is in land, either for cultivation or a lot for building a house. Others have invested in livestock, house construction or improvements, pick-up trucks, tractors, irrigation pumps, education and health care for members of their family, or furniture for their homes. Those who are most successful in the U.S. often attempt to start a small business in their home community, and may even take their families on vacations to Acapulco and Mexico City.

The consequences of migrant investments can sometimes be rather dramatic. Prior to 1967, one of the nine communities included in our study was so economically depressed that it was losing large numbers of inhabitants through permanent emigration, with most of those who remained dependent on income earned in the U.S. Since 1970, however, the community has more than doubled in population, is attracting migrants from surrounding villages and towns, and is experiencing the greatest economic boom in its 137-year history. What happened? In 1967 an individual who had spent nine years working in the U.S., most of them as foreman in a rubber factory in Los Angeles, used the \$1,600 he had saved to buy two small, manually operated cloth-weaving machines. With them he established a small factory in his home, turning out women's and children's clothing for sale in nearby cities and in Mexico City. The business turned out to be profitable, and his neighbors took note. Today the community has about 180 small clothing "factories," all family-owned enterprises in private houses, and is a major supplier of clothing to department stores in Mexico City, Monterrey, and elsewhere. The manual machines have been replaced in some of the factories by highly sophisticated, motorized machinery imported from Italy, Germany, Japan, and the U.S. Virtually all of this machinery, from the beginning up to the present time, has been purchased with earnings from the United States. Today, most of those who depended on U.S. earnings to get their start are

now able to finance expansion of their businesses through locally generated profits and credit from private banks. About one-fourth of the families in this community now own their own textile factories, and the rest depend primarily on jobs in these factories.

This is the most striking "success story" among the nine communities under study. In two other communities, most of the savings from employment in the U.S. seem to have been invested in durable consumer goods (passenger cars, household appliances, and so forth) rather than producer goods. In others, the ratio of producer to consumer goods investment seems to be higher, though not nearly as high as in the case described above. But in all of the communities under study, local commerce has benefited substantially from migrant remittances and investments. Some returned migrants from the U.S. have also been responsible for introducing agricultural innovations, such as the cultivation of crops like strawberries and carrots, with which they had become familiar in field work in the U.S. (Contrary to the fears of some Mexican officials, emigration to the U.S. does not seem to depress agricultural production in Mexico. If the emigrant owns land, he either leaves other members of the family in charge of cultivating and harvesting, or rents it out, or enters into a share-cropping agreement with another resident of his community. Very seldom does the land actually lie idle during the migrant's absence in the U.S.)

It could be argued that several decades of migration to the U.S. have failed to improve in any significant degree the economic conditions prevailing in many rural "sending" communities in Mexico; but it is highly probable that their economic situation would be considerably worse today, had heavy migration to the U.S. not occurred. Obviously, some Mexican communities have benefited from this movement more than others, and some groups within each community have profited more than others. The internal distribution of income and land within most of our research communities may be as unequal today as it was in the 1930s, but the ability of the poorest third or half of the population to supplement their incomes and sometimes expand their landholdings with earnings from the U.S. has undoubtedly prevented a far more unequal distribution of wealth. Any cost/benefit analysis of this migration, at the community or family level, must take into account the probable economic situation of the family unit or the community at large in the absence of migration to the U.S., given the limited supply of cultivable land, the slow rate of job creation, and the extremely high rate of natural population increase in most rural communities in Mexico since 1940. It is likely that temporary migration to the U.S. has also had the effect of reducing in some degree the permanent out-migration from rural communities to Mexico's cities, relieving some of the great pressure on urban

facilities. Further, the demand for education in the communities under study has been stimulated somewhat by migration to the U.S. Migrants often seem to return with a heightened sense of appreciation for the economic advantages of formal education, and make more strenuous efforts to keep their children in school.

The impact of migration to the U.S. on these communities has not been completely positive, however. Social dislocations have occurred; some migrants have abandoned their wives and children to form new families in the U.S. Some of the younger, single migrants have reportedly returned with a drug problem. These are the kinds of social problem most often emphasized by local priests in their discussions of the migration phenomenon; other observers in these communities, however, report that cases of family abandonment, drug abuse or other social problems resulting from migration to the U.S. are quite infrequent.

Why Migrants Return to Mexico

Much of the debate regarding the impact of Mexican migration to the U.S. turns on the question of whether Mexican migrants and their families become permanently established in the U.S., or whether most of them are likely to maintain a pattern of seasonal or "shuttle" migration. To explore this question further, we asked each of our migrant interviewees why he had returned to Mexico at the end of his first period of employment in the U.S. Why did he not simply remain in the States and form a family there if single, or if married bring his family to live in the U.S.? The factor cited most frequently in response to such questions was high living costs in the U.S. Even some migrants whom we interviewed who have become more or less permanently established in the U.S. told us that they are now planning to return to Mexico permanently, complaining that even though their wages are still much higher in their U.S. jobs, they are able to save less and less due to the spiralling cost of living. Other aspects of life in the U.S. which are intensely disliked by the migrants include the severity of the winters, environmental pollution, discrimination, corrupting influences on the young, the fast pace of life, and the fact that in the U.S. one must be working constantly in order to survive (there are no periods of relative inactivity as in the agricultural cycle in Mexico).

Of course many, perhaps the majority of those who migrate to the U.S. have never seriously considered the possibility of moving there permanently. Most simply plan to return to Mexico when their jobs harvesting agricultural crops are ended, or when they have saved a certain amount of money, or when cold winter weather arrives. A strike at the migrant's place of employment in the U.S. may prompt

a swift return to Mexico. Others return when the separation from their families becomes intolerable, or because a child is about to be born, or because they have become ill, or because some member of their family in Mexico has become seriously ill. Still others return because they have been given a leave of absence by their employer in the home community and would lose their job in Mexico if they failed to return on schedule. Ejidatarios must, by law, return after two years, or face the loss of their plot of land. One 50-year old informant, who had been born in the United States and spends six months each year working there, told us: "In the States, I am just another pebble on the beach. Over here I am Mr. Sanchez. Here, people come to me, in this little town. I feel like I am living." For whatever reason, the majority of those who migrate to the U.S. do not want to stay there permanently. Even those who have spent many relatively prosperous years living in the U.S. hope to return eventually to Mexico, perhaps to start a small business, buy a ranch, or make some other kind of capital investment which would enable them to make a comfortable living in their home community.

[Extracted from Mexican Migration to the United States: the View from Rural Sending Communities. Report prepared for the Migration and Development Study Group, Center for International Studies, Massachusetts Institute of Technology, Cambridge, Mass., June 1976.]

Note: The opinions of Mexicans who did stay in the U.S. were not collected in these interviews of Mexican residents.

Economic Consequences of Migration From North Africa to France

Staff of the OECD
Development Center

[The migration for employment in France from the countries of the Maghreb--Algeria, Morocco and Tunisia--is examined from both sides. France has had a large and needed addition to its labor force on favorable terms, though with some problems. In the Maghreb countries, development has been aided in the short run by emigrant remittances and the relief of underemployment; the longer run outcome is less clear.]

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Maghreb Immigrants as seen in France

Until July 1974 when the French Government suspended immigration, France had been the main recipient of migrants from the three countries of the Maghreb. Most such migrants had gone to France, where they accounted for one-third of the foreign population. By 1974 there were nearly 1.3 million emigrants from the Maghreb living in France, including 710,000 workers. During the 20th century the Maghreb has on many occasions provided France with an additional pool of manpower in wartime or in periods of economic prosperity: 1914-1918, 1925-1930, and 1945-1950. At the end of the 1960s this trend accelerated and began to involve larger numbers. After 1958, measures to facilitate the entry of foreigners played a secondary role; the acceleration in immigration was due far more to economic growth and the needs of industry. It had still been easy for Moroccans and Algerians to enter France, there being already a long tradition of movement back and forth; building and engineering firms made extensive use of them as comparatively unskilled labor. For the Tunisians, though, there had not been comparable opportunities before 1964.

The Organization for Economic Cooperation and Development (OECD) is an international organization with headquarters in Paris, France.

Human resources from the Maghreb have made a substantial contribution to economic growth in France by providing a rapid increase in the available labor force at a low social cost. Thanks to these migrants, whole sectors were able to grow by absorbing unskilled manpower. Migrant workers also enabled French nationals to take more highly-skilled and better-paid employment, in particular to move into jobs in the more popular tertiary sector. As many as two-thirds of the new industrial jobs created in the course of the French Sixth Plan (1970-1975) were filled by foreign workers. At the end of 1974 immigrant workers as a whole represented some 8 to 10 percent of the French workforce; workers from the Maghreb accounted for about 2.9 percent, tending more and more to constitute a structural component of the French economy. It had been possible to rely on return flows of immigrant workers as a means of avoiding unemployment among nationals during phases of economic slow-down. This possibility disappeared, however, since the Marcellin-Fontanet Circular; today most immigrant workers stay in the immigration country, signing on for unemployment benefits in the event of recession.

From the French standpoint, this factor of production has been acquired on highly favorable terms. It is the country of origin which pays for all the non-productive years of adult migrants and for their training, which will sometimes have been quite costly; and illegal emigrants apart, it will nearly always have applied some degree of selection to those it sends out. The proportion of unmarried men is very high, thus limiting the burden upon the economy imposed by non-productive immigrants. The standards of housing, social security benefits, and health care available to the immigrants represent considerable savings to the French community. The authorities do little to encourage the arrival of families, which impose substantial costs upon the community. The transfer of family allowances (paid at the rates ruling in the countries where the children are resident, i.e. at well below French rates) even enables the French family allowances system to show a profit.

Unsatisfactory migrant living conditions received their first serious consideration with the preparation of the Sixth Plan. Targets were set to improve them: 50,000 beds for unmarried men and 18,000 family dwellings were to be provided each year, and at this rate the existing shortfalls would have been made good within fifteen years. In fact, 20,000 instead of 50,000 beds for unmarried men were provided on average during the first three years of the Plan, and the number of families arriving from abroad was 38,000, so that living conditions for emigrant workers actually deteriorated. More serious still, their presence has begun to provoke social and racial difficulties with the local population. Immigrants from the Maghreb are particularly at risk here as compared to European immigrants because of their cultural dissimilarities, and because they are often concen-

trated in districts of their own within the large urban centers. The problem was intensified by conflicts in October 1973, revealing the process by which the fears of two communities about one another can rapidly crystallize in a period of crisis. The grossest misrepresentations can gain currency: contrary to the beliefs of some sections of public opinion, rates of delinquency and criminality among immigrants are very low, considering their marginal condition and standards of living.

The social constraints upon heavy utilization of immigrant manpower are now widely appreciated and provide support for those who advocate a slow-down. Conventions with Algeria set quotas until September 1973, when Algeria suspended departures. Relations with Morocco and Tunisia have been governed since 1963 by conventions which theoretically give the National Immigration Office a monopoly. But inadequate customs controls have always resulted in large numbers of sham "tourist" and illicit crossings, obliging the authorities to operate legalization schemes in which the final dates keep having to be postponed. Attempts to offset this by, for example, requiring employers to provide housing, or to ensure that there is no one available on the spot to fill a given vacancy before a worker can be brought into the country, have been of limited influence. They have done little more than foster illicit traffic in manpower and the clandestine channels of entry. Spot checks on firms to detect irregularities are too infrequent to discourage employers from taking on illicit workers. The system of renewable work and residence permits represents a severe threat to the worker but affords the authorities very little tangible security.

France, then, has no real policy for immigration as a whole, and lacks the means with which to implement one. The question of how much room should be made for workers from the Maghreb compared with those of other origin never seems to have been broached. Migration has been uncontrolled for too long, encouraging the formation of communities with lives of their own, which are becoming increasingly distinct from departure countries and host country alike. In 1970, for example, more than three-quarters of all Algerians settled in France had been residing continuously there for more than three years; more than 20 percent had been there for 15 years. Length of stay for migrants, currently averaging ten years, may have tripled in twenty years. The controlled selection process no longer operates, and individuals come over on their own initiative to try their luck. There are 70,000 Algerian families in France plus 15,000-20,000 in which one spouse is French, and 280,000 young people under twenty. Every year several thousand young people from Algerian families enter the labor market.

Algerian society in France shows many of the features of a society in miniature, with its own notables, 2,000 clericals and

members of liberal professions, even a full-fledged marriage market. Youngsters from the Mahgreb community integrate with varying degrees of success into the French education system, which imposes a different culture upon them, while conferring a training which will not always have been available to their parents. These groups invest a proportion of their savings on the spot, especially in property--for example, blocks of housing in Marseilles are said to be controlled by Algerians--and in setting up small firms. The social and cultural status of these colonies is ambiguous: already rather remote from the values of the mother country, they are still not integrated into the host society. Links with the society of origin can be strained, sometimes taking the form of opposition. The Algerian colony provides a striking example: a proportion of the social classes which could not adapt to the new Algeria have set up in France, where they perpetuate outmoded social relationships. The Algerian community in France must therefore cope with its own internal difficulties and mutations, finding its own ways of organization and expression. The old FLN networks, which constitute the backbone of the "Amicale des Algeriens en Europe", no longer seem capable of performing this function. Migration policies will need to take account of this collective way of life, allowing plenty of room for it in bilateral relationships. For Morocco and Tunisia, this development appears less advanced, as migrants' attachments to the home countries are relatively stronger.

The size and the distinctive character of these groups makes them harder to integrate once and for all into the population, but are also an obstacle to any return home. Even with improved living conditions, the coexistence of this foreign minority with the indigenous majority will remain precarious. Improvement might result from a structuring of these groups around their leading figures, enabling them to take charge of their own development, in harmony with the authorities of their countries of origin and departure. But they are consistently denied the means to express themselves and organize.

Effects of Emigration in the Maghreb

Emigration produces a variety of economic and social effects. It is regarded by some as a disinvestment in "human capital"; it is also seen as a way to reduce underemployment when there is a real surplus of manpower. It generates financial flows which can be measured and interpreted in different ways; and its effects on demographic growth are of interest but are not always taken into account. The impact of emigration on the economic growth of the departure country will be emphasized here. It is important to distinguish cyclical, short-term effects from the structural effects occurring over the long term. The observations which follow deal mainly with

the short-term effects; these will be lasting to the extent that, for a long time yet, emigration will be an established practice.

A disinvestment? In the case of an emigrant who leaves for good, the departure country is thought to lose the entire "human capital" invested in him, that is the health, social and educational expenditure on his behalf by the community. In the case of temporary emigration, the loss is thought to be confined to the interest which should have been earned on this capital during the period of absence, probably calculated in terms of the discount rate adopted for the economy of the country concerned. Thus the emigrans economicus is said to represent a definite loss of capital, or at least of interest.

However, capital assets are better valued by current productivity than by investment input costs. In the Maghreb countries underemployment is such that, far from being a source of profit in the short-term, the prospective emigrant is a liability if underemployed or out of work. He is in the short term a liability to the overall economy in that he reduces the share of resources, and consequently of well-being, accruing to everyone. Thus every Algerian in gainful employment has to provide, directly or indirectly, for the subsistence of seven other Algerians who are not productive. In France the equivalent ratio is about 1 to 2.5. He is also a direct burden on his nation's budget if his being out of work forces the community to cover expenditures such as additional medical care (as a result of malnutrition or inadequate hygiene) which it would not otherwise have to meet. No doubt it would be impossible to measure the cost directly, if only because so many of the underemployed in the Maghreb are completely outside the money economy, subsisting wholly on transfers in kind. But this cost is no less real.

Generally speaking, the disinvestment problem should not arise until the surplus manpower has been absorbed by the creation of new jobs. Nevertheless, in certain clearly defined sectors, manpower shortages already arise--there is, for example, a lack of unskilled agricultural labor at times of peak activity in some of the areas particularly affected by emigration. But this is also an instance of internal migration, in the form of the rural exodus to the towns. The same applies to the shortages of skilled technicians and workers in certain areas and certain sectors, such as building; attempts have been made for some years to palliate this, with limited success. The local shortages of manpower can sometimes have the effect of noticeably increasing wage rates, as in the case of masons in Djerba and olive harvesters in Southern Tunisia.

It is not really possible, however, to reckon up such losses of not-immediately-replaceable manpower in terms of wasted "capital" or "interest". What one should rather be talking of here is replace-

ment costs. For unskilled agricultural manpower the replacement cost would be merely that of transporting unemployed workers from the cities to the areas concerned and providing accommodation for them there--a negligible cost economically (though it would no doubt be higher politically). In the case of skilled manpower, the replacement cost would be the cost of occupational training for a worker of equivalent skill; replacement cost could also be calculated in terms of substitute investments--mechanization in agriculture, for example, or automation in industry. The size of these "disinvestments" could be roughly established by detailed surveys of different sectors. But the chances are that for some years yet they will be marginal--especially if emigration, including clandestine emigration, is prevented. In any case they cannot be dissociated from the effects of internal migration.

One might add that in the case of students, executives and highly skilled technicians not returning to the Maghreb, there is not disinvestment so much as non-repatriation of a capital asset built up abroad--sometimes built up entirely abroad (this would apply to second-generation emigration), or sometimes mainly built up there (training received abroad by emigrants or their emigrated children). When such emigrants do return, it is the developed host country which may be disinvesting, providing a kind of aid to the original departure country. Unfortunately, emigrants receive high level occupational training too seldom for such reverse flows to be significant.

The diminution of underemployment. Of all the effects of emigration, this is the one about which there can be least dispute. Emigration to the countries of Europe has "created" hundreds of thousands of jobs which can be regarded to some extent as "Maghreb jobs". Without these, the numbers underemployed in each of the countries concerned would be even higher than at present. This is true not merely because it would have been impossible to provide full employment for those now working abroad, but also because their money transfers help to maintain or create jobs in their country of departure. When it is not as savings invested in production goods, it is through expenditure on consumption by the families who have stayed behind. Without emigration it would, for example, have been necessary to create 600,000 to 700,000 jobs each year in the Maghreb between 1970 and 1973--not merely 300,000 to 400,000--just to avoid increases in unemployment. Furthermore, the emigrant population gives rise, through its own internal growth, to a demand for several thousand jobs each year for young people attaining working age in Europe: for example, 5,000 work permits were issued in France to young Algerians in 1972.

It is very difficult to quantify the numbers of those who would be underemployed in the absence of migration, either presently or in the near future. In Algeria, our best estimate is 1,290,000 in 1974

and 781,000 in 1980 (based on jobs to be created under economic plans, and labor force forecasts). These are significant portions of a labor force of about 3 million in 1974 and 4 million in 1980. This compares with 460,000 Algerians in gainful employment in France in 1974, plus 390,000 dependents, a total of 850,000. There were 280,000 Moroccans in France, 150,000 employed, in 1974; this is 1.65 percent of Morocco's population (a large fraction were seasonal agricultural workers who returned home). Approximately 100,000 Tunisians were working in France in 1974, 2.6 percent of the population of Tunisia. It is not possible to estimate underemployment in the latter two countries.

Savings, and transfers of money. Transfers of money include: postal orders and bank transfers sent to families; social welfare payments; foreign currency savings accounts and housing savings accounts; savings repatriated on return; pensions; and various secret settlements among individuals which never come to official notice. In 1973 such remittances to the Maghreb seem to have approached or exceeded 3.2 billion francs, or more than 3,400 francs on average per immigrant worker (rates of exchange as of autumn 1974). The relation of these transfers to the total foreign exchange earnings and capital formation in the three countries are shown in Table 1; clearly they are important.

TABLE 1

SUMMARY OF MONEY TRANSFERS FROM FRANCE IN 1973

	<u>ALGERIA</u>	<u>MOROCCO</u>	<u>TUNISIA</u>
Total transferred	1,687,000 Frs.	1,036,000 Frs.	446,000 Frs.
per emigrant worker	3,660 Frs.	4,000 Frs.	2,970 Frs.
per resident in departure country	116 Frs.	65.50 Frs.	83 Frs.
Transfers as % of total receipts from abroad	20.0%	24.7%	11.6%
Gross fixed capital formation	28,750,000 Frs.	5,770,000 Frs.	3,224,000 Frs.
per year: projected (1974-77)		(1973-77)	(1975-76)

These figures incorporate many uncertainties in all three countries, due to the great variety of ways in which transfers can be made. In addition to the money transfers already listed are imports by the

emigrants, which are difficult to evaluate. With regard to social security payments, included in the overall figures quoted above, it should be noted that discrepancies abound.

The overall contribution made by emigrant workers to the balance of payments is all the more important when other resources, especially oil, are scarce. In Algeria, remittances from emigrants were alone sufficient to cover the nation's trade deficit prior to the 1973 increase in oil prices, and amounted to the total savings by Algerian households. In Morocco, the contribution of foreign exchange from migrants continues to be essential to the balance of payments, and to the financing of development. As noted in the table, official transfers represented 20.0 percent of overall external receipts in Algeria, 24.7 percent in Morocco and 11.6 percent in Tunisia. To this should be added savings which are sometimes repatriated more discreetly. The importance of clandestine payments in the other direction, however, has not been altogether appreciated: there does appear to be a fairly significant flight of funds from the Maghreb to Europe through clandestine settlements involving emigrant workers as intermediaries. Tens and perhaps hundreds of millions of francs in capital which might otherwise have been more difficult to send away from the Maghreb must therefore be set on the debit side of the financial balance for emigration.

The transfers appear, on average, to be more than the money income which the emigrant could have obtained for his family in his own country. This average, however, covers marked inequalities. Some areas of rural Algeria are totally dependent upon income from abroad for their livelihood, while others have a broader economic base so that foreign transfers are relatively insignificant. A similar state of affairs exists in Tunisia, where the governorates of Medinine and Babes derive 21 and 16 percent respectively of their income from migrants. Inhabitants of Medinine receive an average per person of 11 dinars (119 French francs) per year from official migrant transfers--twice as much if unofficial transfers are included. The largest transfers are generally made by workers from those governorates from which emigration is highest, which tend to be the poorer rural districts.

Savings appear to be predominantly accumulated in the host country. There is consequently some risk for the departure country that they will not be immediately, or fully, repatriated even when the saver returns for good. Although one cannot speak of a systematically negative effect, there is a definite reduction in incomes deriving from emigration when such savings are accumulated in the host country and not repatriated. Taking a basis of 1,000 francs per year per worker, we find a minimum of 6.5 billion dinars invested in France by Algerian workers up to the beginning of 1975; additional future investment of 400 to 500 million dinars per year; and an

annual yield of an almost equivalent sum, of which some proportion is likely to be reinvested or spent in the host country. And this is a moderate estimate--a figure of ten billion francs invested by Maghreb workers in France has occasionally been mentioned. The proportion accounted for by Moroccans and Tunisians per head seem unlikely to be on a comparable scale to the savings accumulated by the Algerians who are more apt to think of themselves as permanently in France. In terms of yield and of fresh savings, these sums represent twice the amount transferred each year. In the case of Algeria they represent at least six times the amount collected by Algerian Savings Banks, and one half of the country's money and near money assets.

A substantial proportion of these medium and long-term savings are not transferred but invested in France, mainly in business, services and property. The increasing lengths of stay in France have certainly helped to increase such savings, which would be extremely useful to the economy of the Maghreb. With emigrants now making only short visits to their homes, they are probably more inclined to spend money on consumption than to invest it there, except for housing. The increase in income from raw materials such as oil and phosphates will doubtless lessen the comparative importance of these savings to Algeria and Morocco; but they will remain substantial in relation to internal savings. The authorities might do well to try to encourage emigrants to transfer some proportion of these savings to their own countries by offering favorable exchange rates.

On the other hand, when savings are transferred to the departure country by emigrants who do not use them until their return, the Maghreb countries clearly benefit from having these sums freely at their disposal for a number of years (and the number of years is increasing as emigrants tend to stay longer abroad) at rates of interest far lower than the international banks would charge. The amounts involved are not particularly high; but they are certainly more than the same individuals could have saved had they not gone abroad. When the money transfers are accompanied by a transfer of consumer habits leading to the purchase of foreign goods, the Government can collect a proportion of that consumption in customs duties, paid directly or indirectly in foreign currencies.

Transfers thus contribute in many ways to inward flows of foreign exchange, which can be utilized to purchase productive investment goods abroad. But there is also the case of direct transfers, after purchase out of savings in the host country, of non-essential foreign products which may even generate subsequent expenditure. The private motor car has little collective function: the effect in the Maghreb might be negative.

One very visible form of investment in the countries of the Maghreb is in housing. Many emigrants have their own housing built,

or extended, out of savings which they may have been transferring monthly, annually, or may have brought with them on their return. This provides a double contribution to the local economy: increased activity for the building industry, while reducing the burden on the growing proportion of national income having to be spent on accommodation. However, in countries with scarcities of materials, such investments are liable to affect prices and perhaps foster black markets. The buildings might be of poor quality, and people may be unable to afford to keep them up later on.

The volume of savings directly invested in productive sectors, on the other hand, seems to be very small, except sometimes in agriculture and livestock. But transfers consumed in various ways in the departure countries are bound to give rise, indirectly, to local savings on the part of shopkeepers, lenders of money, craftsmen etc. who benefit from the expenditure involved; and these additional savings would not otherwise have been made.

Although a substantial proportion of emigrants' earnings is put into savings, most of the money they transfer is spent on subsistence. One of the main causes of emigration is that the prospective emigrant has found it impossible to earn enough to support the family he will be leaving behind. Hence the importance of the monthly postal order in many parts of the Maghreb, where mere survival might otherwise be in doubt. This will continue for as long as female employment remains so limited and is confined, in rural areas, to contributing a certain amount of food in kind to the family's self-generated consumption, not to say subsistence. It is true that in an increasing number of areas women can find occasional money earnings through seasonal agricultural work, but this is still a marginal trend. So emigrants who have left families behind in their own countries--wives and children, or to a lesser extent parents and more distant relatives--are always anxious to transfer part of their wages for their families to live off. It seems probable, too, that they only transfer enough to provide what they regard as the family's level of subsistence, as is demonstrated by the substantial scale on which emigrants from the Maghreb accumulate savings.

The family of the emigrant, however, is bound to align its pattern of consumption, be it no more than slightly, upon the more Western image he displays when he returns--either for visits or to live: European style foodstuffs, noticeable in Tunisia, durables such as household appliances and new--or more often secondhand cars, giving rise to various kinds of illicit trading. The indirect effects of emigration upon the consumer behavior of emigrants and their families are therefore a matter of concern. The patterns of consumption adopted by the emigrant can differ from what they were in his original environment, and the difference may become so deep as to delay or even altogether prevent his return. Even the habits, gen-

uine or affected, which the emigrant displays during his holidays cannot fail to stimulate demand in the Maghreb for consumer goods deriving from advanced means of production which are not yet available in the Maghreb. Dissatisfaction with the low-paying rural environment is liable to increase. Prolonged residence of emigrants abroad might thus lead to serious national foreign exchange losses in two ways: the purchase of non-essentials; and imports of basic food-stuffs which can no longer be produced in the countryside owing to shortages of manpower at seasonal peaks.

The short term advantages of the money transfer to the departure countries are clear. The task of the State is facilitated externally by the foreign exchange they provide, and internally by the incomes they distribute. But in the longer term they may give a false impression of ease, and thus discourage the tackling of the basic problems. In the long run, migration involves change in work and consumption patterns. It introduces styles which are hard for a developing country to adopt, whose cost is impossible to calculate but must surely be very high. The countries of the Maghreb have clear-sightedly elected to remain open to the outside world. But merely by analyzing these transfers--so far as they can be identified--emigration is shown to be more than an opening. It is an almost permanent link, thoroughly integrated into the climate of thought, whose effects are hard to get under control: it raises the question of the extent to which the economies of the Maghreb are to become integrated in the world economy.

The demographic impact. Through its effect on population growth, emigration makes a significant though less direct contribution to the economic well-being of the inhabitants of the Maghreb. It not only reduces the numbers of wholly or partly unemployed, but also helps to keep the birth rate down. So emigration may mean that for each inhabitant, the substantial efforts which are having to be made in terms of infrastructure and, in the longer term, of creating jobs, become more immediately effective. This is what the example of Algeria appears to suggest on the basis of the following assumptions--though they are only assumptions.

Firstly, the male Algerian population in France includes 195,000 unmarried men aged more than 16. Admittedly, not all of these would be married were they living in Algeria--some of them are too young; but it can be assumed that many of these single emigrant men would have married had they been living in Algeria. The fertility and birth rates suggest that they would probably have fathered about 25,000 children each year. The 750,000 births anticipated for 1974 would therefore have risen to 775,000. This would have put up the birth rate from 4.94 percent to 5.05 percent and the rate of increase would have been of the order of 3.5 percent, instead of 3.4 percent for 1974.

Secondly, there are 295,000 married men working in France with wives still living in Algeria. Their being away for ten or eleven months of the year may reduce the birth rate. Before 1973 a minimum age for emigrating had been set at 24, whereas the average age upon marriage is lower than this; female fertility is highest between the ages of 20 and 30, and nearly half the wives of emigrants would likely fit into this category. The influence of some of the factors tending to reduce births may be offset by rising standards of living among families, with better attention to nutrition and hygiene. On the other hand, the same improvement in living standards, together with the assimilation of various birth control techniques, may be bringing about a deliberate reduction in births. It seems probable that as the emigrant's social position improves, he will sometimes reduce his assessment of the optimal number of children, in the light of his ambitions for them and for himself. Allowing for all these factors, it can be estimated that the birth rate for families whose fathers have emigrated declines by 25 percent--i.e. the average number of children becomes 3.5 instead of 4.7. This means a reduction of at least 12,000 births which would otherwise have occurred each year.

Thirdly comes the presence in France of 68,000 Algerian families, plus several thousand mixed couples who might otherwise be living in Algeria, and a total of 240,000 children under 16 at the beginning of 1974. These families also account for a few thousand births each year actually occurring in France, and therefore not in Algeria.

Altogether the natural rate of increase of the Algerian population, with all corrections, would perhaps have reached 3.7 percent in 1974 instead of 3.4 percent, had there been no emigration. This means that several thousand additional jobs per year would have had to be created at once. From the end of the 1980s, more than 20,000 additional jobs would have had to be created each year. This is by no means negligible. Thus, emigration alone is as effective as a good birth control campaign. A similar analysis could be made for Morocco and Tunisia; the conclusions suggested above would apply, but on a smaller scale due to fewer migrants and shorter durations of stay. (Some observers, it should be noted, take a cautious view of this reasoning.)

Contribution to Development

At first, then, the examples of the Maghreb countries suggest that emigration, far from holding back the growth or development of the departure country, actually facilitates it by relieving various kinds of pressure. But relieving short-term pressures does not necessarily contribute to the structures required for balanced long-term development. That is one basic distinction; and there is also a distinction to be made between growth and development. Growth mainly refers to the accumulation of goods, and to the increase in

the actually productive labor force. Development is not merely quantitative: it also refers to qualitative improvement, to advancing technology, productivity, and self-generated initiative, but also to equilibrium in terms of ecology, culture, health and society. It is not easy to decide what emigration may be contributing to any of these concepts. No conclusive findings with respect to the Maghreb can be offered here, but some observations following from the data and assumptions presented above will be attempted.

The options initially open to the emigrant were limited to complete unemployment or underemployment approaching this, and leaving the country. The severity of the problem can be seen from the fact that the number of prospective emigrants has sometimes amounted to hundreds of thousands. So in the short term emigration causes no slowing down or actual loss of growth. The brain drain, the only possible form of brake, appears to be marginal and is in any case an altogether different problem from that of the emigrant workers. In terms of the well-being of the nationals and residents of the departure country, emigration undoubtedly effects an improvement, which takes many forms. At present, income per head of population is distinctly higher than it would have been but for emigration. It would have risen a good deal less since the end of the 1960s. In Algeria, for example, allowing for the marriage and birth rate levels in the absence of emigration, it can be estimated that the resident population would have exceeded 16 million by the end of 1974 instead of 15.5 million if a reduction of 90 percent had been made in the emigrant population since 1969. With the equivalent decrease in remittances, there would have been a net reduction of 3.5 percent in income per head between 1969 and 1973. For the years immediately ahead, assuming that instead of the net balance of 50,000 departures (including workers and others) per year originally anticipated, the halting of departures results in a net balance of 12,000 returns per year, the cessation of emigration could involve a reduction of 0.5 percent in the improvement of average income per year, in terms of current (not constant) money.

The effect upon Morocco has so far been more limited, since emigration is more recent and remittances per inhabitant are not so heavy. In Tunisia, on the other hand, its importance is emphasized in the Plan itself: "Over the last ten years national income has been rising at a rate of only 2.4 percent per year at constant prices... The improvement in average per capita income has consequently been minimal and it would even have diminished but for emigration, which has reduced the growth of the population from its natural rate of 2.8 percent annually to a rate of 2.2 percent after emigration." (IVth Plan, p. 16.)

While emigration occasionally limits the rise in expenditure on infrastructure and on imports of consumer goods, it frees greater

resources for productive investment which, in the more or less long term, will create jobs. The transfer of money it generates plays a similar role, in the many different ways described above. Additionally a considerable stock of capital is built up in the host country; here the question is whether, and when, this capital and its yields will be transferred to productive sectors. There are, then, substantial short-term advantages to the economies of the Maghreb in the departure and prolonged residence in Western Europe of more than 1.5 million emigrants. Even if their numbers cease once and for all to be fed by fresh departures, the existence of emigration appears to be helpful to the economic take-off of the Maghreb.

Looking to the long term, however, the question arises of how far the Maghreb countries are going to take their development into their own hands. There can be no doubt that in the long term their strategy ought to rely on their own production capability. It is conceivable that the labor importing and exporting countries could negotiate with one another some very specific arrangements which would, with mutual advantage, provide for a transfer of desired skills and technologies from the more advanced to the developing countries involved in an already interdependent relationship.

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The Banyan Tree: Overseas Migrants From South Asia

Hugh Tinker

[Emigrants from the area of the large South Asian nations, India, Pakistan and Bangladesh, are found with their descendants in many parts of the world, and are a majority in three small nations. This article reviews the history of this emigration, with a summary of its current status.]

There are some societies for which emigration is a necessity. In Europe, it is difficult to imagine how Ireland or Italy could have survived the last hundred years without the safety-valve of mass emigration. Without emigration, an excess of population, a hopeless decline in living standards, together with revolution must have ensued. In the British Commonwealth there are small societies like Malta and Barbados which are compelled to rely upon emigration to keep them in some kind of equilibrium. For India, Pakistan, and Bangladesh, however, emigration is almost an irrelevance in the struggle for economic survival and betterment. There are five or six million people throughout the world who came originally from South Asia; the combined population of the three South Asian countries in the mid-1970s was about 700 million. If the numbers of those overseas were doubled, or trebled, it would make little difference to the problems at home.

Early emigrations seem to have involved only temporary visits overseas. The ancient kingdoms of the eastern seaboard of South India--the Coromandel--built up strong connections with the islands of Southeast Asia. The Palas of Bengal were in contact with the Sailendra kings of Indonesia. Then, in the eleventh century, the Cholas (Tamil princes) organized expeditions which vanquished the great Indonesian

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empire of Sri Vijaya. Yet none of these contacts led to a distinctive Indian population overseas. Indian priests and officials married local women, and within a few generations were indistinguishable from local people. Even in Bali, Hindu culture has been transmuted into something authentically Balinese.

Trade with East Africa did lead to permanent Indian settlement. Indians were only one group among the many immigrants or invaders who created colonies along the coastline. The dominant element were the Arabs or Shirazi, who developed Mogadishu and Mombasa as great trading centers. Their dominance was challenged by the Portuguese; the Arabs counter-attacked, and the Omani dynasty dominated the coastal ports, challenged by rival Arab rulers from Muscat. Amid these adventures, the Indians labored unobtrusively in trade, manufacture, and the growth of cloves on Zanzibar island. They came from all along the western Indian seaboard from the Indus down to Gujarat. When the nineteenth-century European explorers like Burton first ventured into the interior of East Africa, they were guided on their way by Indian merchants; when a British official presence was established there in the mid-nineteenth century, it relied upon support from British India. These Indian activities in East Africa had persisted for hundreds of years, but they were still mainly limited to the trader communities, and these communities led a secluded existence.

Surprisingly, the mercantile castes of western India continued to face west almost exclusively, building up business in South and East Africa, in Aden, and in the Persian Gulf, moving only marginally in other directions. In the same way, Indian financial enterprise 'facing east' was concentrated in the hands of one tightly organized caste of bankers, the Chettyars or Chettis. They came mostly from Chettinad, a dry and barren place in Madras (now Tamil Nadu), and were the main bankers and traders of South India and Ceylon from medieval times. Gradually they extended their activities to Burma, Malaya, Thailand, Indonesia, and Mauritius. They were linked in a body called the Nattukkottai Chettyar Association, which decided financial policy, fixed credit terms, and assured the liquidity of its members. Despite rigidly careful business practices and a generally enlightened attitude, they were the object of suspicion and even hostility outside their own ranks.

The nineteenth century also witnessed the arrival in lands overseas of millions of Indians who were not passengers or independent travellers: the indentured laborers, and others press-ganged into leaving their homes. At first the laborers were recruited from among the floating labor force of the Indian ports, Calcutta, Bombay, and Madras. More systematic recruiting began later in parts of North India where there was a surplus of labor. In the early export of laborers to Mauritius and British Guiana in the 1840s and the 1850s, a large proportion were from Chota Nagpur. Most of these

laborers signed up as single men; if they were married, they left wives and children in the care of the elders of their joint family. The Government required the colonial recruiting agencies to send out forty women with every hundred men. The colonial agencies constantly found excuses for not filling the female quota, but they had to demonstrate some kind of compliance with the regulations, so they sent widows, prostitutes, dancers, and various outcasts. The social consequences of sexual abnormality in plantation life were to last for many decades. Whereas among immigrants arriving as families the normal process of reproduction will create a second generation of "belongers," the conditions of Indian labor emigration delayed that transformation of immigrants into "belongers" for two generations or more.

Indentured emigration ended in 1916, and thereafter the Gangetic plains no longer sent emigrants overseas. The experience of South India was very different: inland from Madras city to the south there are six enormous districts where the population has long outgrown the natural resources. When a demand for labor opened up in nearby Ceylon in the 1840s, they were ready to embark upon the hazardous journey to the estates. Once the emigration cycle had commenced, they responded to demands from Burma, Ceylon, South Africa, and Fiji. When indentured emigration closed down (in 1911 for South Africa) it did not terminate the outward movement; emigration had become a necessity to the impoverished and depressed of Tamilnad. Mass emigration peaked in the 1920s; it was resumed in the mid 1930s, but by now political objections were being voiced, both in India and in the receiving areas. The Government of India placed a ban upon labor emigration to Malaya in 1938 and to Ceylon in 1940. As the Japanese invasion struck Burma, Indian emigration was replaced by a massive return movement: between 400,000 and 500,000 Indians fled before the invader and struggled back to their motherland. Indian labor emigration was never resumed to those countries. However, as a consequence of the half-century or more of labor emigration, Ceylon, Burma, and Malaya all had a large laboring population of Indian Tamils by the time of their independence.

The overseas Indians are often regarded in terms of 'images' or stereotypes. The white stereotype is often that of the impoverished laborer, the coolie. The Indian self-image is that of a middle-class or professional person; and over the space of time, the reality does tend to move from a proletarian to a bourgeois level. The Indian Tamils who went in their thousands to Malaya were accompanied by clerks, doctors, teachers who also spoke their language but who were mainly drawn from Ceylon--the Jaffna Tamils, who for a time acted as brokers and spokesmen for the Indians. Similarly, the emigration of Punjabi working-men, Sikhs and Muslims, was accompanied by the emigration of literary Punjabis, most of whom were Hindus. The professional

emigration acquired a momentum of its own. Many were from the great metropolitan centers, Bombay, Calcutta, and Madras. Bengal, which supplied northern India with professional people during the nineteenth century and even later, contributed professional emigrants to all the countries where Indians settled. The small Indian community in Britain before 1939 included many who were Bengalis. During the 1960s and thereafter these professional people emigrated to almost every corner of the world on the strength of their professional qualifications. The variety of their experiences illustrates that the impact of Indians as individuals is very different from their collective impact.

As opportunities in the former colonies dwindled, so the persistent Indians found new opportunities in the affluent metropolitan centers in Britain, and to a lesser degree in Canada and Australia. The British working class moved out of occupations which were no longer attractive and which they were no longer compelled by necessity to follow, and Asians were drawn in. Indian professional men were in demand in Britain, Canada, and Australia because before the 1950s these countries had been very slow to expand their institutions of higher education. In particular, the medical profession in Britain--which had attracted doctors from India for over fifty years--began to draw heavily upon this source after 1945; first to make up for gaps in training, and second to replace British doctors who were themselves emigrating overseas. A pattern of Indian integration into the British health service was established: British medical services could not now function effectively without doctors from South Asia and other Third World countries; equally, the Indian medical profession could avoid overcrowding of limited opportunities by the ability to syphon off surplus doctors to Britain, Canada, etc.

The total population of those who are settled throughout the world, whose origins were in South Asia, is likely to be about 5 million. Other estimates have given totals as high as 6.5 million. Whichever figure is nearer to reality is of less importance than the conclusion that the South Asians overseas are a much smaller total than the overseas Chinese (15 to 20 million), or the British overseas--over 50 million, if one uses the same basis for computation (i.e. persons of British ancestry, even if not today British or Commonwealth citizens.)

It is much more relevant to observe that the Indians form the majority of the population in two island-states, Mauritius and Fiji, and in one state in South America--Guyana. If present demographic trends continue, there may also be an Indian majority in Trinidad before the end of this century. Apart from Trinidad--whose economy is becoming diversified--all these little countries are heavily dependent upon the export of one crop, sugar. Their economies are meshed into, and largely dependent upon the consumption of western Europe,

primarily Britain. Indians also form an important group in Malaya (western Malaysia), Singapore, and Ceylon, where they are more than 10 percent of the overall population. In Malaya they are vulnerable, economically and politically; in Ceylon, now Sri Lanka, they have been deliberately isolated and excluded from the mainstream of society and politics.

Everywhere else, the South Asians are a small, sensitive group, forming less than 3 percent of the total population. In numerical terms--which in a democracy also dictate the political terms--the Asians are marginal to the rest of the community. Accepting their political position of powerlessness, the Asians quietly pursue their occupations, preserving their family structure and family code of life. Before we consider the ways in which the world views them, and treats them, let us enumerate the various communities of South Asians overseas:

Aden	2,000	Netherlands	1,500
Afghanistan	20,000	New Zealand	6,700
Australia	3,108	Nigeria	1,600
Bahrain	5,500	Philippines	2,516
Burma	250,000	Qatar	2,000
Canada	52,000	Rhodesia	10,000
Ethiopia	4,520	Saudi Arabia	1,035
Fiji	266,000	Singapore	150,000
France	1,400	Somalia	1,360
Ghana	1,750	South Africa	620,436
Grenada	9,500	Spain	1,600
Guyana	357,000	St Vincent	3,703
Hong Kong	5,000	Sri Lanka (Ceylon)	1,224,784
Indonesia	27,617	Sudan	2,550
Iran	1,000	Surinam	101,715
Iraq	12,000	Tanzania	85,000
Israel	23,000	Thailand	18,014
Jamaica	27,951	Trinidad	360,000
Japan	1,141	Trucial States	5,000
Kenya	139,593	Uganda	50,000
Kuwait	12,006	United Kingdom	750,000
Laos	1,800	United States	32,000
Madagascar	12,350	Vietnam (South)	2,000
Malawi	11,299	West Germany	4,681
Malaysia	910,000	Zaire	3,000
Mauritius	575,123	Zambia	10,705
Muscat	4,500		

This table is intended to list all South Asians overseas, whether citizens of India, Pakistan or Bangladesh, or citizens of other countries, or of none. It represents the position about 1970-1, the latest years for which census statistics are generally available.

Since that date, the Asian population in all the East African countries has diminished, while in western Europe and North America numbers have substantially increased. There are said to be 4-5,000 Asians in Denmark, for example, though in 1970 there was hardly an Indian in sight.

Almost all the overseas communities have preserved the essentials of the different religions which they took with them from the sub-continent: Hindu, Muslim, and Sikh. The various castes of the Hindus are brought together in religious organizations, such as the Sanatan Dharma Maha Sabha, a conservative temple organization, and the Arya Samaj, a society of reformers with a strong missionary spirit. Other religious links are provided by the Ramakrishna Mission, dedicated to social service, and similar welfare organizations. Likewise, the Muslims have religious and cultural associations which keep Islamic values prominently before their people, such as the Anjuman-e-Islam, and the Sikhs everywhere establish their *gurudwaras*, centers for worship and fellowship. In Mauritius, the West Indies, Malaya, and other lands, the process of social and economic upliftment was often in the past accompanied by conversion to Christianity. This religious framework provides the most important source of identification for the more tradition-minded among Indians overseas.

The next significant setting is that of language. The Indian--or East Indian--communities in the Caribbean have largely discarded their mother tongue after three or more generations in isolation from the motherland. English and a polyglot plantation idiom, sometimes known as Creole, have replaced the various forms of Hindi which most of their ancestors spoke. For purposes of religion and festival, a few words and phrases are preserved, but not much more. In South Africa also, the pressures of the white man's world have affected the use of the mother tongue, except among the old people. But elsewhere the mother tongue remains the natural medium of communication with one's fellows. Mauritius, where immigration began to dry up about 1880, still includes several Indian language groups, notably speakers of Hindi and Urdu, Tamil, and to a much smaller extent Gujarati and Marathi. In Ceylon and Malaya, the majority of the local Indians speak Tamil or another South Indian language. The Indians in Fiji are mainly Hindi-speakers, with a minority of Tamils and a few Punjabis. In East Africa, Gujarati is the most important language, though Punjabi is also heard; and the Christian Goans speak Konkani--a form of Marathi--or Portuguese.

The diversity of Asian communities overseas, emphasized by religious and linguistic differences, is accentuated by economic differentiation: the aims and interests of the prosperous, urban, middle-class Asians are quite different from those of poor workers--laborers and artisans. The first group are likely to adopt a social and political philosophy of accommodation and adjustment to Western norms; the

mass of the poor, especially the rural poor, will live in conditions of isolation which can only be ameliorated by protest or even revolt. Even in towns and suburbs, the Indians who aspire to middle-class status often live in separate areas. These 'ghettos' may be created by law, as in South Africa, Rhodesia, and colonial Kenya. Elsewhere they may arise out of economic and social custom, in part from the preference of the Indians for their own people and their own shopping and other facilities, and in part from the obstacles placed before them by others when they try to move into white or Creole areas. (We also find that the Indian community often chooses to divide itself into separate residential areas for Hindus and Muslims.)

In almost every place where they reside--even in the Caribbean and in Mauritius where they have now been domiciled for generations--the Indians are classified as 'different'. Theoretical analyses by social scientists explain colonial and post-colonial society in terms of racial difference, though some argue that the line of difference should be drawn horizontally and some place it vertically. Where the mass of the overseas Indians are still laborers it is possible to treat them as a class. However, another school insists that the overriding difference is not economic but racial and cultural, and conceives colonial and post-colonial society in terms of racial blocs. This is termed the 'Plural Society'.

The 'race as class' interpretation seems to fit South Africa, where the legal reservation of all skilled jobs for the whites has effectively made the white community co-extensive with the middle and upper class while the Africans fill the lower class. The Indians in South Africa are actually the racial group least identified with one class, though it can be argued that they form a 'buffer' class between white and black. The majority do belong to the unskilled workforce, like the Africans, but a minority are businessmen, ranging from petty traders to big merchants and manufacturers, while a few are attached to the white professional elite as doctors, engineers, teachers, etc. Emphasis on the legacy of colonialism would also enable us to view East Africa--colonial Kenya in particular--as a class system, in which the whites occupied all the commanding heights of government and the economy, the Indians occupied the middle positions in administration and commerce, and the Africans--the latecomers in the power struggle--were confined to a proletarian role as laborers and peasants. Similarly, we might view colonial British Guiana as a class system, with the whites in command, the Afro-Guianans as teachers, policemen, independent farmers--a kind of ex-slave middle-class--and the Indians as the plantation laborers, the undisputed working class.

Malaysia offers the most convincing model of a plural society. Under British colonial rule, the Malays were largely preserved in the state in which the British found them in the 1870s, with a

princely monopoly of the traditional institutions of government; the majority of the rural Malays were left as poor rice farmers and fishermen. The exploitation of rubber, tin, and other primary products was highly developed by British firms employing Chinese and Indian labor. The Chinese were also independent tin-miners, and established themselves in retail trade and small manufacturing industries. The Indians did not expand into capitalist enterprise to the same extent, though they almost monopolized the textile trade, but their adaptability made them the main labor force in public employment enterprises--the post office and the railways, in particular. This sector formed the basis for labor union organization after the Second World War. Today the Malays remain politically strong and economically weak: they dominate government and politics; they man the police and the armed forces, yet in economic terms they are still confined almost wholly to the rural, agricultural sector. The Chinese, in the rapidly developing economy of Malaysia, have moved from the export of primary products towards manufactures, where they have a virtual monopoly. The important programs of economic development--the building of roads, schools, hospitals, etc.--largely depend on Chinese contractors. The Indians have a relatively poor share in both political and economic power. Yet they have a somewhat specialized role in between, which enables them to maintain some importance. The largest trade unions are virtually Indian unions. Intellectual life has a strong Indian element: newspapers, schools, and the universities are pervasively Indian; doctors and lawyers include a high proportion of Indians.

Political leaders trying to evolve policies to defuse the pressures between communities have come up with the formula of "the multi-racial society", designed to suggest that different races can co-exist and cooperate within the framework of the nation state. The term was especially popular in East and Central Africa in the 1950s and the 1960s when white minority regimes faced the demand to hand over power to Africans. The term has also been widely employed in Britain in the 1960s to suggest that with the arrival of people from the Caribbean and South Asia the old values and practices are no longer adequate. British society may be pluralistic in the sense that it is not so mono-cultural as (say) France. British society, however, remains fundamentally British, and during the 1960s and 1970s has in no real sense become multi-racial. The term only has meaning when applied to the city-state of Singapore. In this cosmopolitan center of international trade, where the professional middle class live in a life-style which may be called late-colonial British, and the majority of the rest of the population live according to the style of the Nanyang Chinese, a multi-racial political program is virtually essential. In the schools of Singapore a genuine multi-lingual policy is applied in order to make a reality of the multi-racial ideal. The four languages recognized as the 'national' languages of Singapore are English, Malay, Chinese (Mandarin), and

Tamil. Every school is organized so that the teaching of different subjects is given in two of these languages, and all the students are required to acquire a thorough knowledge of at least one other 'national' language than their own.

The Indians who have found themselves in all these circumstances have developed a variety of ways to handle the different situations which have been thrust upon them. Almost always they have demonstrated an inner strength which has enabled these persistent people to survive. The banyan tree has thrust down roots in soil which is stony, sandy, marshy--and has somehow drawn sustenance from diverse unpromising conditions. Yet the banyan tree itself has changed; its similarity to the original growth is still there, but it has changed in response to its different environment. For those who leave South Asia, in almost every case, there is no going back. The overseas Indians are no longer Indians of India; they are overseas Indians.

[Extracted from Chapter 1 of The Banyan Tree, Overseas Emigrants from India, Pakistan, and Bangladesh. Copyright © Oxford University Press, 1977.]

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